

# Does she...or doesn't she?



### Hair color so natural only her hairdresser knows for sure!

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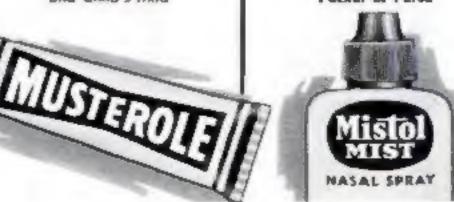
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58

### Madonna and Child-Eternal

In 12 pages of color LIFE shows masterworks of sculpture which through centuries have depicted the Virgin and the Infant Jesus-the Christian em-

bodiment of human and divine love.



BY MICHELANGELO

### Big build-up for failure

U.S. suffers a humiliating setback as the Administration advertises a great feat, the Vanguard firing, that blows up in its face. But it is making progress on other missile fronts.



A NEIGHBOR'S SIGN

108

### Unsecret Soviet science

A penetrating exploration gives the facts on a loosely talked-about subject: Soviet science. Where is it better than ours? Where worse? Where is it going-and how fast?



LENIN AND SCIENTIST

48

79

### Norstad aims for summit

An International commuter winds up preparations for an urgent international event-General Norstad, NATO European commander, whose ideas form a basis for NATO summit talks.



**GENERAL NORSTAD** 

### Wolfes, on stage and off

Thomas Wolfe's novel, Look Homeward, Angel, which told about himself and his family, is made into a moving play-and his family come to see themselves portrayed on stage.



ANGEL 'WOLFE' IN PLAY

COVER

The Madonna and Child in the Church of Notre Dame at Bruges, Belgium is a masterplece by Michelangelo done in 1501 when he was 26 (see p. 58-69)

#### THE WEEK'S EVENTS Too much talk too soon on the Vanguard adds up to a

technical and diplomatic disaster. However, U.S. students and scientists work hard to catch up in rocket race The foggy, fatal day of a London train wreck Big labor gives Teamsters the heave-ho Hammarskjöld, a man in a hurry waging peace, settles a

Mid-Eastern squabble General Lauris Norstad prepares for summit meeting of Secret pictures expose truck drivers' mammoth bill-

### padding racket EDITORIAL

### **Euphoria and the Scythians**

PHOTOGRAPHIC ESSAY The Madonna and Child: three photographers capture the timeless beauty of sculptured masterpleces. Photographed for LIFE by Mark Kauffman, Gjon Mill

and Howard Sochurek ARTICLE First hard facts on all Russian sciences: field-by-field

survey based on U.S. experts' knowledge and Soviet words and deeds shows that Sputniks are but one example of amazing progress. By Robert Wallace MOVIES

Sultry Anna Magnani stars as an immigrant wife in movie Wild is the Wind THEATER

Fine play from great novel: Look Homeward, Angel brings Wolfe's family to Broadway NATURE Philadelphia puts on a big swan roundup 87

SPORTS Glant Frenchman at Gonzaga is a size 21 dilemma in basketball shoes

A junior-high epic of the Crusades: pupils produce their own movie to learn history ENTERTAINMENT Operation Jennie turns a 19-year-old girl into a well-

packaged singer 98 TRANSPORTATION Fine front door for jet-age America: New York's Idlewild Airport opens new terminal building 102

FASHION Lingerie goes on a 1920 kick 107 PARTY

Havana jaunt for 132, all on the boss 125 OTHER DEPARTMENTS Letters to the Editors Speaking of Pictures: try to match dogs' noses and

Miscellany: padlock picking paws 128

The following list shows the sources from which pictures were gathered.

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### COVER-GJOH MILI

LET'L

SEC. H. WY

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41-JOE MCKEOWN, REUTERPHOTO FROM EUROPEAN -JOE MCKEOWN-ILLUSTRATION ST ADOLPH E. BROOM GIVAD, K.P.A., DAVID MOORE CH-JOE SCHERSCHEL 7-JOHN SADOVY EXC. CISL DAVID RUBINGER 49-EDWARD CLARK (4): EDWARD CLARK (1), HOWARD SOCHUREK-EDWARD CLARK, PIERWE BOULAT (2)

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125. 126-PAUL SCHUTZER 128-WESTON KEMP

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# bells ring for the man who gets

# Dutch Masters

The Fine Cigar!

Bells ring, hearts sing and a man's king when you give The Fine Cigar. Superbly mild, supremely fine, Dutch Masters is the preferred choice of cigar-lovers everywhere.

Put a Glow in his life. This Christmas, give Dutch Masters!

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EXTRA CONVENIENT: 25 Dutch Masters in handy 5-Packs. An attractively cartoned Christmas treat. From \$3.00



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Distinguished GIFT! 25 Dutch Masters Crowns and a permanent glass humidor for the price of the cigars alone. About \$5.95



When better automobiles are built Buick will build them

# Solid click on the TROJAN campus

We previewed the B-58 Buick at the University of Southern California—and drew a more enthusiastic turnout than a movie crew on location.

What sent the students the most was that new Miracle Ride, plus Air-Poise Suspension.\*

They couldn't get over the way this Buick levels itself, no matter how heavy the load, or where you place it.

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And what brought the widest grins of glee was the way this big B-58 sailed up the winding canyon roads without a trace of slew or sway.

When we tallied up the comments, "It's the greatest!" was the mildest.

So-go see what the hubbub's all about, at your Buick dealer's now.

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Air-Poise Suspension optional at extra cost on all Series.

TRY THE MIRACLE RIDE OF-

# THE AIR BORN B-58 BUICK

See TALES OF WELLS FARGO, Monday Nights, NBC-TV and THE PATRICE MUNSEL SHOW, Friday Nights, ABC-TV



You can take your bills out through the change purse...though you put them in the billfold! The "Sparklers" French Purse by Lady BUXTON

best for your money





### this Christmas give her your pledge of love...

"The minute I tell people that Bob's giving me a Lane Chest for Christmas, they know we're really serious about each other. They say it's the first gift a boy gives a girl when he's sure he's in love. And even though marriage is still a long way off, Bob and I feel that we're already starting our future home together with a Lane Cedar Chest -our first shared possession."

Isn't this Christmas an ideal time to pledge your love . . . with the

gift that symbolizes the lifelong partnership of home and marriage? Every treasure will be safe from moths, dust and dampness. And this beautiful furniture will always be a reminder of that Christmas Day in 1957 when she first knew that you really loved her.

Lane is the only pressure-tested, aroma-tight codar chest. Made of 34" red codar with free moth-protection guarantee. Helpful hints in each chest. Send 10¢ for fully illustrated, Informative booklet, "There's a Lane Cedar Chest for You", to THE LANE COMPANY, Department 764R, Altavista, Virginia. In Canada: Knechtels, Limited, Hanover, Ontario.



ASTRA. Louvered panels and base drawer. Shown, Softone Walnut. Also in Pearl. #7592



FAIRFAX. Traditional 18th Century style, Base drawer, Hand-rubbed Mahogany. #6214



PARKLANE. Commode adjoins cedar chest. Blond Oak, Also to Seafoam or Cordovan, #6334



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# CHANEL

ALL PRICES PLUS TAX



MARLON BRANDO AND AN EXQUISITE NEW JAPANESE STAR. THEY LIVE JAMES A. MICHENER'S STORY OF DEFIANT DESIRE. IT IS CALLED 3

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INTRODUCING MIIKO TAKA

WILLIAM GOETZ - JOSHUA LOGAN - JAMES A. MICHENER - PAUL OSBORN







### Light from the atom for San Francisco!

The lights of San Francisco today are a symbol — a symbol of a city that has crossed the frontier of the atomic age. For electricity produced from atomic energy now flows into the power lines that light this colorful city and other northern California communities.

Atomic electricity comes down the wires from a strange-looking "pilot" plant in the hills. There a 5000-KW electric power plant of the Pacific Gas and Electric Company produces

electricity, using steam from an atomic furnace built by the General Electric Company.

Here and at other projects around the country, independent electric companies, equipment makers and the U.S. Atomic Energy Commission are studying, testing and developing the techniques of atomic-electric power. They're putting to work all their experience and know-how to discover the best ways to bring America economical electric power from the atom



Give the world's leading whiskey in the shimmering splendor of Seagram's Centennial Luxury Satin.

Give Seagram's and be Sure.



Just get this better kind!

There simply aren't enough hours left for sleep in busy, modern lives.

So Airfoam—the mattress for moderns—does more than coax you to Slumberland. It sleeps you better-helps you get more out of every sleeping minute-and does it an entirely new way.

AIRFOAM does it with delightfully resilient latex—and billions of bubbles of clean, fresh air. You're supported so gently, so completely, that tensions can unwind, steal softly away-and slumber is deep and sweet.

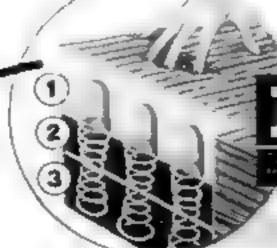
And so morning finds you really rested-cheery, sparklingon your toes for another big day!

Millions of moderns have found this better kind of rest on this better kind of mattress-AIRFOAM. Just press your hand on one, stretch out on one-and you'll know why! Goodyear, Foam Products Division, Akron 16, Ohio.

### See how AIRFOAM starts your best days the night before:

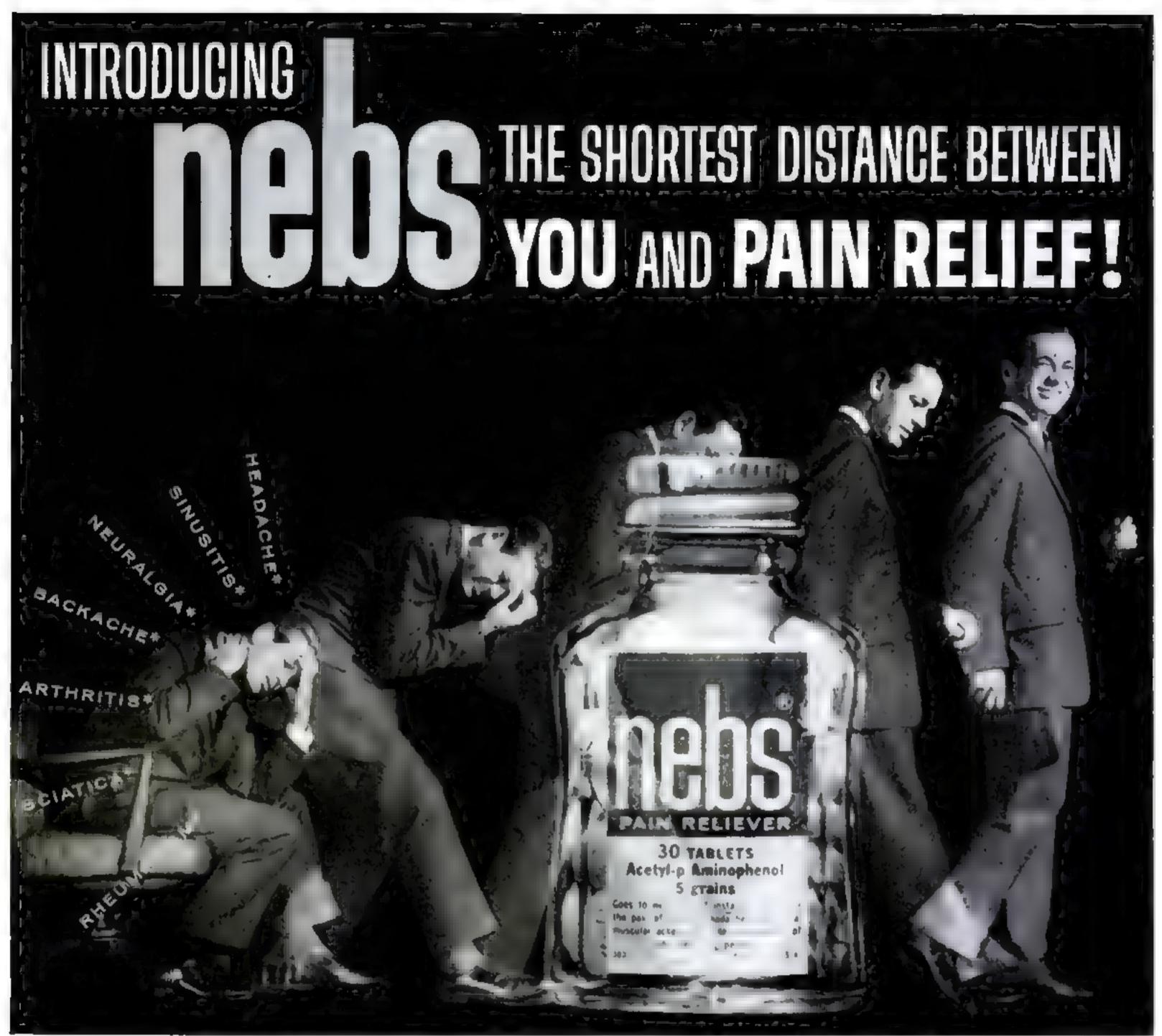
- Relaxed tension zones gentle uplift helps ease taut nerves, tense muscles
- Firm support all over-mattress strongest where weight is greatest
- · Boon to allergy sufferers generates no dust, lint or fluff
- "Broothes" fresh air stays inviting, sleep-inducing, without turning
- Holds shape through the years—allone-piece, nothing to sag, snag or break down
- The sleep that's 3-layers deep gentle AIRPOAM (1) is next to you, the springs down where they belong - resilient layer (2), firm layer (3), in the Englander RED-LINE foundation.





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be is recommended for relieving the minor discomforts of headaches, sinusitis, neuralgia, backaches, arthritis, sciatica, rheumatism.

### When in pain, take NEBS...the unique non-prescription tablet that goes to work almost instantly, speeds to the site of pain!

How fast can pain be relieved, short of a doctor's prescription? Medical science has a new answeranother step in the march to wipe out pain. It's a remarkably effective compound. And in Nebs, you find it in straight, pure form!

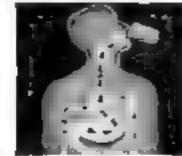
No non-prescription product acts faster than Nebs. Most other available remedies must be broken down by chemical reaction in the body before they can even begin to work. But not Nebs. Safe, gentle Nebs is a new medication that is naturally accepted by the body, because it's chemically ready to go to work instantly, without upset or side effects. That's why Nebs gives such rapid relief from pain.

Take Nebs instead of ordinary pain remedies. You feel so much better so much faster, you'll never go back to aspirin, buffered aspirin, aspirin compounds, or effervescents.

### ASK YOUR DOCTOR WHAT COUNTS IN A PAIN RELIEVER



IT ISN'T how fast it dissolves



IT ISN'T how fast it goes through the stomach



IT'S HOW FAST IT GIVES YOU RELIEF FROM PAIN



61957, The Norwich Pharmacal Co.

That's Why NEBS is NEWS! It's the shortest distance between YOU and PAIN RELIEF!



WHY PAY UP TO \$200 EXTRA for so-called new air springs (they've been tried in buses for several years), when Dodge Torsion-Aire suspension is standard equipment at no extra cost on all Swept-Wing 38 models? That's a question Dodge dealers are asking new car prospects, and backing it up with a "test flight" in the new Dodge. Most noticeable difference between the two rides.

Torsion Aire vs. air springs—is the distinct freedom from lean or sway on turns with Torsion-Aire, which uses torsion bars in front. "Air springs may be some improvement over old coil springs," states Indianapolis (Ind.) Dodge dealer H. E. Fadley. "but they don't begin to match the level, smooth ride of Torsion-Aire, Why pay more and get less?" A lot of buyers seem to agree.





# Knowledgeable people give gift-packed Imperial

Shown here is the new shape of luxury in gift wrapped whiskey. The name *Imperial* assures the quality. The six-sided, glittering foil package makes it a distinctive gift . . . easy to give, elegant to get. It's at your liquor store now at no extra cost.



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To give—just remove tear-off label tag. Handy "To" and "From" name spaces are printed right on top the package.

### LETTERS TO THE EDITORS

#### EDITORIAL

Sir

"The country needs a symbol of bipartisanship the way it needs a hole in the head like is already 'President of all the people' " ("Adiai, like and the Pohiical Void," LIFE, Nov. 25). Could it be that you are willing to put your party ahead of your country? Partisanism has warped your thinking to the extent that you would rather have a Republican foreign policy

DICK OGDEN

Seattle, Wash,

Sire.

What has happened to the commonsense approach to the Sputnik crisis which you advocated so wisely in your first editorial on this subject? Great effort and much time are necessary to formulate plans if they are to be sound and successful. Surely no one demands action simply for the sake of action.

President Eisenhower has carned our confidence by deeds through the years, demonstrating his sound judgment based on a catm and careful consideration of all the facts at his command. We can help, it seems to me, only by controlling our impatience and withholding our criticism at least until the American programs due to be presented to NATO and to Congress are fully formulated

WINIFRED CLARK

Sharon, N.H.

Sites

Now, as usual, since the real truth about the great "leudership" of the Republican party has shown itself, it has been made clear that the Democrats must come to the resear. If not, we are doomed,

ERIC D KOILER

Vineland, N.J.

Since

I wish to complement you on your editorial, "Adlai, Ike and the Political Void."

Now that Spottick and Muttack are causing Kerr, Byrd, Truman and others to change their appeches to please the public, I suggest that the U.S. soothe the ego of the Democrats by sending up a jackets instead of a dog.

C. W. King

Claremore, Okla

Sirar

It was indeed appropriate that you called attention to the fact that Mr. Adlar Stevenson could only be "deeply grieved" by the Little Rock situation while Mr. Eisenhower "did do something" about it. Clearly Stevenson was reman in his obligation. He should have called out the Army

STANLEY GREEN

New York, N Y.

#### CHANGEOVER FOR LASSIE

Sinst

Thank you so very much for the interesting facts about Lassie and her new family ("A Big Changeover for Lassie," Life, Nov. 25). When I first heard of the proposed change, without knowing any of the facts, I must confess I was very disappointed, and a little resentful, because Gramps, Mom and Jeff had worked their way into our hearts. Now that we know why, I would like to say thanks to the old cast, and to wish the new family every success.

EMMA OLIPHANT

Mrs. J. S. GORDON

Alburnett, Iowa

Sure

I wish you had said a little more about the future of Jeff (Tommy Rettig). What will happen to him?

Salt Lake City, Utah

• Tommy Rettig, now 16 and a student at Chaminade High School in Los Angeles, plans to begin a new TV series when he graduates.—ED.

### EYEFUL FROM ITALY

Sire:

LIFE's Nov 25 cover and pictures on Elsa Martinelli ("Newest Eveful from Italy") really bowled me over. This was the best photography of its type that I have seen

FONT NO II, BINGRAM III Washington, D C

Siret

Any woman who spends 30 minutes on her face atone could not be truly beautiful.

Perhaps this left her no time to comb her hair for your cover.

R. A. Susmeyan

Newton, Mass.

### THE WORLD'S WEEK

Sirst

After seeing Harry Conway being plucked off the ground by airplane to the "fastest successful body snatch in history" (A Look at the World's Week, Live, Nov. 25), your readers might like to know about the first man to do this

He was my cousin, Paratrooper 1st Lieut. Alexis Doster, who in September 1943 was swept off a field at Wilmington, Ohio by a L.S. Army plane. Months later Alex died of poho in Egypt, Incidentally, there was another chap around at the same time who votanteered the day after Alex did but failed to get the job. His name was S/Sgt. Harry G. Conway.

Loroner John V vnderpoer Lancoln, Mass.

CONTINUED



LIEUTENANT DOSTER IS SUCCESSFULLY SNATCHED BY A PLANE IN 1943



A precious moment captured forever

# Save a happy Christmas... Flash the fun!

Christmas magic will be everywhere—get ready to capture your share with Sylvania Press 25 flashbulbs.

These "all-purpose" flashbulbs give your camera just the right amount of light. Christmas-tree close-up or family-packed long shot, slow or fast action, you just press the button and flash. Gather the smiles, enjoy the fun for years to come.

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sip it...





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# full-flavored HEIIB

the cordials that amazed the taste-testers

CREME DE MENTHE, 54 PROOF + BLACKBERRY FLAVORED BRANDY 70 PROOF CHERRY FLAVORED BRANDY, 70 PROOF - CREME DE CACAO, 50 PROOF - 20 FLAVORS IN ALL

### **LETTERS** TO THE EDITORS

STALLED-AND UNWANTED

Congratulations on your dramatic presentation of the plight of the Hungarian refugees left in Europe ("Stalled -and Unwanted." Life, Nov. 25).

The purpose of the Zellerbach Commission was to explore the plight of the more than 200,000 Iron Curtain. refugees (Hungarians included) now in Europa. The resettlement of 165,-000 Hungarians in so short a period of time demonstrates how much can be done when the will is there.

The entire refugee backlog in Europe could be wiped out if the Western nations would approach the problem with the same spirit they showed to the case of the Hungarian retugees,

> ANGIER BIDDLE DUKE Cochairman

Zellerbach Commission New York, N.Y.

You show a young Hungarian who lost a hand in the revolt now "stalled and unwanted" in a German camp. Could I sponsor him as an immigrant? What would all of this involve?

W L. TUCKER

Richmond, Va.

 The International Rescue Committee, 251 Fourth Ave., New York, N.Y. will obtain his name. Visa application must be made through the U.S. consul in Munich. -- ED.

### **ARCHITECTURAL SHOW**

Sus:

Walter Gropaus' 1919 principles to integrate arts for a complete building are a poignant commentary on American architecture ("Biggest Architectural Show," LIFE, Nov. 25),

Cultural and esthetic perception in the U.S.A. has been painfully slow.

RICHARD L. CROWTHER

Denver, Colo.

Sirac

I was surprised and gratified to find in your report on the Interhau Exhibotton, Berlin, an appraisal of the in-Suence of the Bauhaus. As its founder, I would like to thank you for showing how a tragic gap in the historical development of modern architecture in Germany has been finally closed through this exhibition.

WALTER GEOPHIS

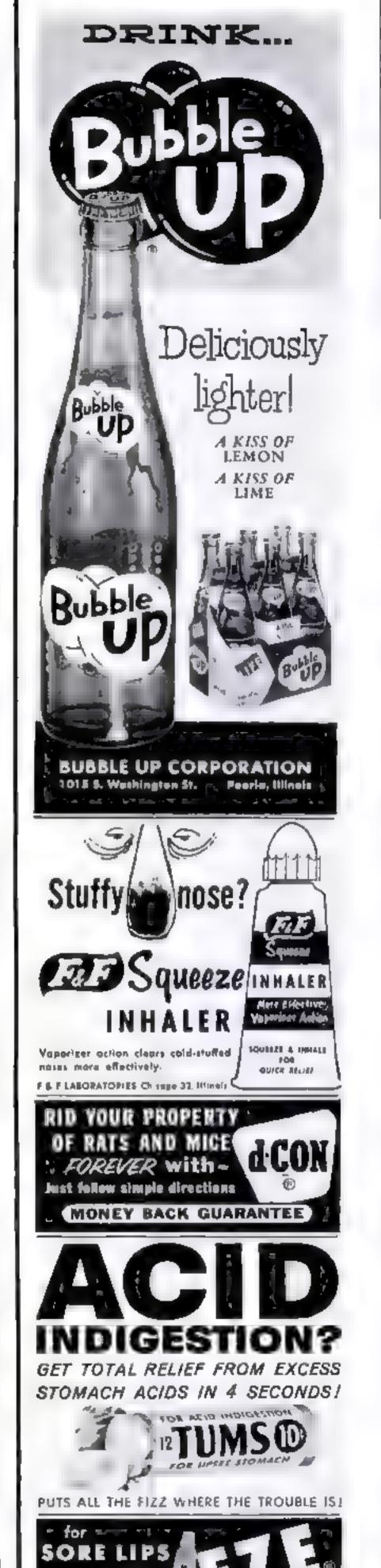
Cambridge, Mass.

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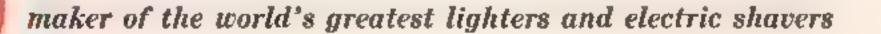
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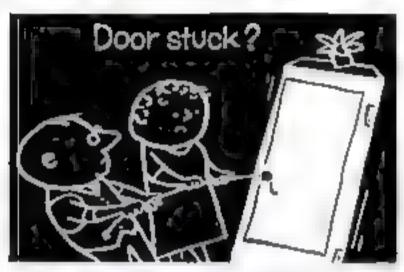
Put 50 lb, cake of ke i "tray" made of



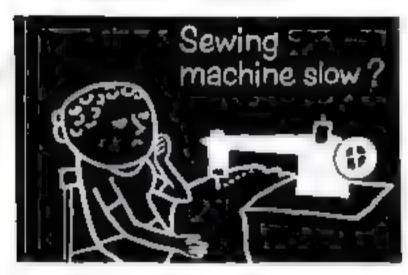
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# LETTERS TO THE EDITORS

-- CONTINUED

### MASTERPIECE MARKET

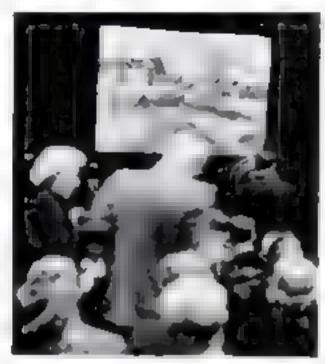
burs

Your fine depiction of the sale of the Ge rees Lurcy act collection at Porke-Bernet gatheries is missing an important brushstroke (Peak in Masterpiece Warket," LUE, Nov. 25)

The sale utilized television in an aaction for the lifet time through a closed-circuit TV system in two galleries adjacent to the main room.

Mr. Ation 1

Wachington Dir



TV 8 DDERS AT ART AUCTION

#### STRAVINSKY

Sugar

"The Fantastic World of Stravmsky" (Lieg. Nov. 25) was outstanding . a truly great composer.

Jackson Heights, N.Y.

### CLOSE-UP

SIES

Thank you for the picture of a great couch. Terry Breunau ( A Couch on a Critical Spot, Larg. Nov. 25)

Belleville, On

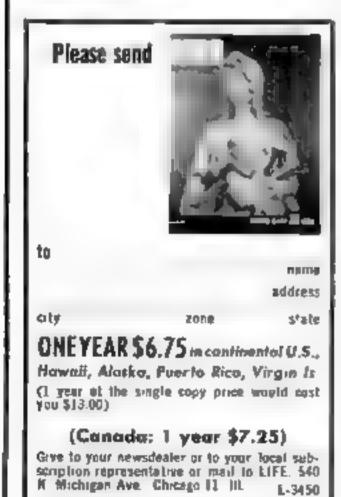
person

Before Terry Brennan ridicules go go pep talks he should compare his own won and-lost record (won 20, lost 11 tied 0 - 650) with the achievements of his Notre Dame coaching prederessors, Knute Rockne (he won 105, lost 12, tied 3—.898) and Frank Leahy (won 87, lost 11, tied 9 \* .888), both of whom emphasized pre-game and halftime dramatics

FRANK ID 80.0 Y

J. KROPINGS

Yonkers, N.Y.



# When you're suffering from the fever and pain of Colds or Asiatic Flu...



# BAYER® Aspirin makes you Feel Better-Fast!

Fever, sore throat, headache, backache, muscular aches and pains—all are characteristics, not only of the common cold, but of highly contagious Asiatic Flu. And at the first indication of any of these symptoms, you should:

- I Get in touch with your doctor
- 2 Get as much bed rest as possible
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The importance of taking Bayer Aspirin at the first sign of a cold or Asiatic Flu cannot be over-emphasized. Both diseases, if neglected, can cause you serious trouble... Asiatic Flu especially... for it not only spreads with insidious speed, but can lead to pneumonia.

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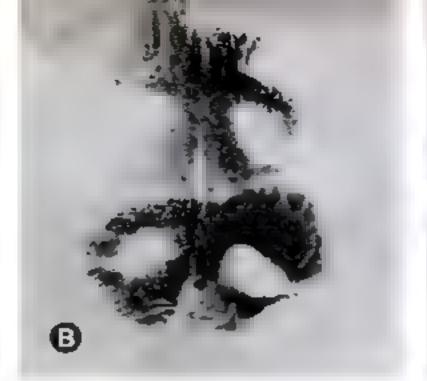
As personal as your toothbrush? Comes in containers of different colors, so everyone in your family can have his own. Thus it

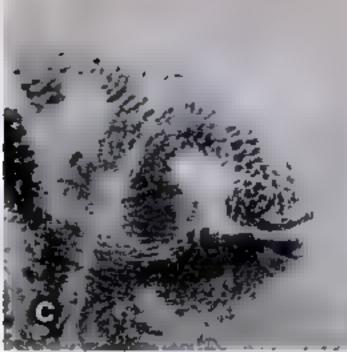
Offers preater protection against spread of infection than any other masal spray!

Coats swollen masal membranes with a soothing spray that shrinks swelling, relieves masal congestion.

SPEAKING OF PICTURES







# TRY TO MATCH DOGS' NOSES

The patterns above are something very few people have ever seen before. They are dog noseprints, the canine equivalent of human fingerprints, and were made for a new dog insurance company to identify its policyholders (below). Each is a pedigreed dog from championship stock, whose life is insured by Animal Insurance Co. of America, The boxer, Duchess (left top), is insured for \$250. The toy poodle, Hercules (bottom left),

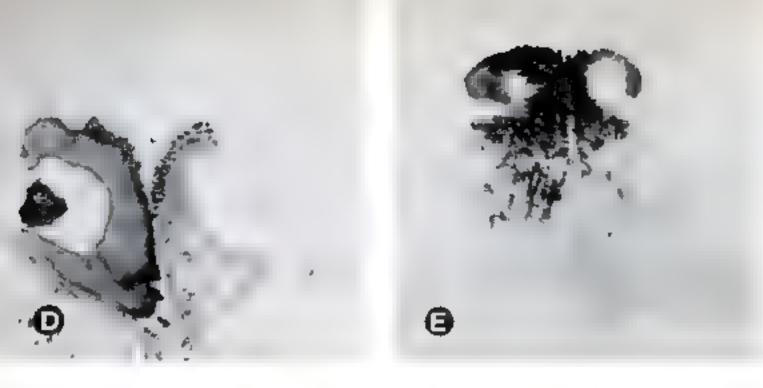
who works as a model for dog food advertisements, is insured for \$600. The dachshund, Taffy (center), has a \$300 policy, and the Airedale, Lucky Lady (top right), a \$400 policy. The basset, Tobey (lower right), is a champion and the most heavily insured, for \$1,000.

To make a print the owner wipes the insuree's nose dry, inks it with a pad, then presses it on the space provided in the insurance application









# AND IMPRINTS

form. Viscorians differ in over all shape, the canal lines and spacing of policy, Even dog lovers will find it hard to identify a dog by its inflaminar nostpile. As a guessing game, readers are invited to match the prints above with the dogs telow. For the answers, turn the page upside down,

seattel guid stain of had of one elid ##71 diff. Seed theft they to be a seed a left they are de-







# You can't just wash away dandruff...

### Theradan medicates away dandruff and scalp itch

...with just 3 applications\*



Not a shampoo that you wash right off, Bristol-Myers' new Theradan stays on long enough to remove the dead cells that cause dandruff and related itchy scalp.

Theradan is a medicine for dandruff. It's not a shampoo that you wash right off. It's not a weak "tonic" that you merely sprinkle on.

It's a new preparation that gets down where dandruff starts . . . and stays on long enough to remove the dead cells that cause dandruff . . . a half hour, an hour or overnight, if that's needed and convenient.

With just 3 applications, Theradan clears up even the worst dandruff and related itchy scalp! Easily! Quickly!

### Why Theradan is different

Ordinary preparations only remove loose dandruff. They can't penetrate the layer of dead cells that sticks to the scalp and forms new dandruff flakes.

Theradan can and does penetrate because Theradan contains penetrating Sarthionate. It acts under the surface, not just on top.

Gently, it removes the crust that keeps forming new dandruff. Thus, it leaves your hair and scalp really clean-free from dandruff scales and itching.

### Effective 1 to 3 months

In 20 months of testing by skin specialists, Theradan was completely effective

in dandruff cases so severe that even strong prescription remedies didn't give adequate relief.

With Theradan, none of these men and women tested had dandruff again for 1 month to 3 months!

Theradan is made by the makers of Buffering. Try it today.

When Theradan has cleared up your dandruff and itchy scalp, use it regularly, once every month or so, as many people do, to prevent dandruff from starting again.

NOTE TO PHYSICIANS: The statements in this advertisement are supported by clinical tests. For a report of these tests, write Medical Director, Bristoi-Myers Co., Dept. L-1273, 630 Fifth Ave., New York 20, N. Y.



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even in severest dandruff cases

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### Where you save does make a difference

# Val. 43, No. 25 December 16, 1957

# TOO MUCH TALK TOO SOON ADDS UP TO DISASTER

COCOR BERCH

SIGN ON ROAD TO VANGUARD TEST SITE SUMS UP THE VERDICT OF MANY

U.S. prestige has been dealt a grave blow because Vanguard, the Navy missile which was to launch the nation's first satellite, burst into flames and toppled. Our technological reputation, which had already declined as a result of Russia's two Sputniks, sagged further. And it was a humiliating defeat on the propaganda and diplomatic front. Now U.S. diplomats face the bitter prospect of going to the NATO conference in Paris next week with diminished authority in their search for a strong Western military posture. Other nations are laughoug.

The technological defeat was the least serious. Missiles are complicated gadgets and, given time, the Navy's missilemen will correct the cause of Vanguard's failure. But the loss on the propaganda front is not so easily repaired. We were already on the defensive because of Russia's satellite successes. In a mistaken effort to recoup, the Administration had started to crank out propaganda on Vanguard before it had anything

to brag about. Last October President Eisenhower himself announced in a press conference that Vanguard's first test launching was scheduled for this month. The Russians made similar predictions about their own satellites and may have had failures, too. They did not, however, follow up with detailed bulletins describing every countdown, gust of wind, technical delay and proposed firing time. So, as of today, the Russians can brag about their satellite successes while we can only squirm in our embarrassment over unfulfilled promises.

Free people have a traditional right to know what's going on. But the Administration should have realized that, with the international stakes so high and our prestige so fragile, the public would have been glad to do without detailed news of the satellite until it was safely up. Senator Lyndon Johnson articulated this last week: "I shrink a little inside of me whenever the U.S. announces a great event and it blows up in our face."

THREE SECONDS AFTER FIRING, THE BURNING MISSILE IS HIDDEN BY FLAME BILLOWING UP BETWEEN VANGUARD GANTRY (RIGHT) AND OTHER MISSILE CRANES





FUELING CREW at Cape Canaveral, Fla. stand in plastic suits under shower to wash off the residue of any furning nitric acid they might have picked up during fueling of one of the rocket's three stages.



ROCKET OFFICIALS meet in New York on eve of firing. Vanguard's Propulsion Chief Kurt Stehling (right) chats with Defense Department missile head, Wilham Holaday, at American Rocket Society party.

### FLAMES ARE FOLLOWED BY A FUTILE BEEP

It took just seven seconds to set back a nation's pride. Poised on its launching pad at Cape Canaveral, Fla. the slender, powerful Vanguard rocket stood ready to carry aloft the first U.S. test satellite. On a beach four miles away—as close as they were permitted to get -hundreds of watchers clustered anxiously, awaiting the end of the countdown. It came at 11:45 a.m. The missile rose to an altitule of three feet, suddenly lost its thrust, fell back, and toppled. A burst of flames was seen at the rocket's base. The hewildered watchers on the beach heard only the great rushing sound of burning rocket fuel which built rapidly up to an earth-shaking roar. They heard no explosive boom, yet in two seconds the missile had disappeared. In its place was a fat, orange-red blob of flame 120 feet high.

Though public attention was focused on the satellite in its nose, the Navy had emphasized

that the Vanguard's firing was merely a first test of the complete three-stage rocket. No one could say precisely what had gone wrong, but the Vanguard had, in its brief abortive flight, already radioed some 6,000 bits of information which, when sifted, might provide some clues. Meanwhile the best preliminary guess was that, through the malfunction of some individual part of the many thousands in the rocket, the fuel system failed to maintain enough thrust to launch the 11-ton craft successfully.

Seven seconds after launching, the missile was a ruin. The satellite itself, thrown clear, had landed 75 feet away in the sand. Scorched and split, its innards were still intact and its transmitters were still sending out their futile beep. "It seems almost inhuman to let the poor thing go on," muttered a female reporter. "Someone should go out there and kill it."



WATCHING ON BEACH, stunned spectators show dismay as Vanguard missile falls back onto launch-

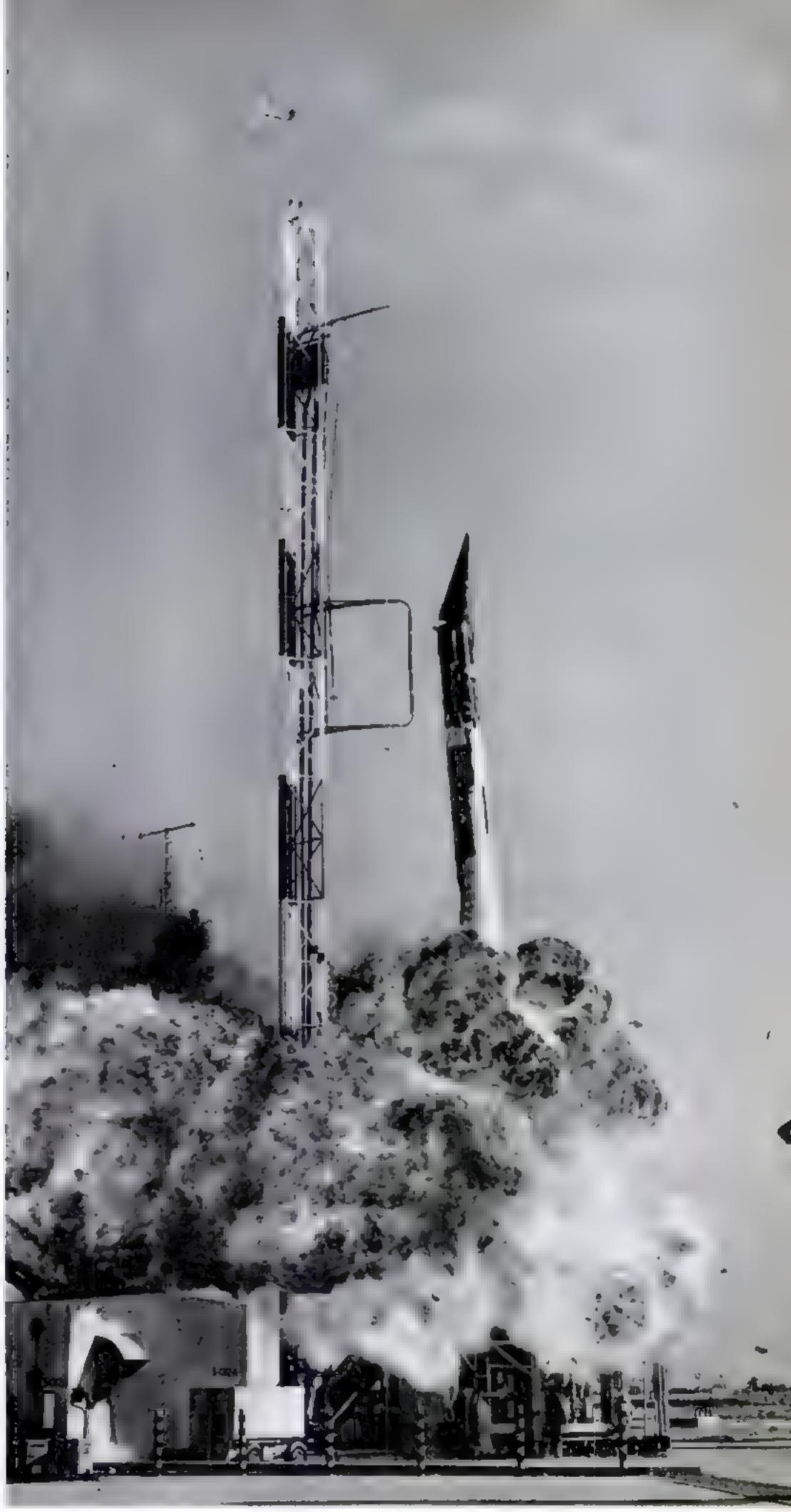
ing pad. Billowing flames from rocket are reflected in the dark glasses of man and woman (left, rear).



after take-off. The flames spouting from its base are



already spreading to must theft; which holds cables that power electronic equipment before, aunthing



LOSING NOSE CONE, which leans to right before toppling missile starts to would as flames shoot

noward to consume second stage recket. The sur-rounding area is sprayed with bits of flying debuis.



UPPER STAGES of Army's satellite launcher, made by Caltech, are prepared for spin tests by ABMA engineers in Huntsville. At top is the satellite (instrument carrier is white, rocket section is black). Drapes cover secret area. The fat tower section is rocket stage which will be separated from the satellite in space.



SHAPE OF SATELLITE is shown in a mock-up at Caltech by Dr. William H. Pickering, director of Jet Propulsion Laboratory. Top half carries instruments, transmitters, Lower half is final-stage rocket, which remains permanently attached to the instrument carrier. Whiplike protrusions are antennas for transmitters.

### ARMY HURRIES WITH ITS ENTRY

The Navy's Vanguard failure has put the Army more prominently in the satellite picture. And, despite pious Defense Department declarations that no interservice rivalry exists, the Army is obviously eager to take on a major role. Given a cautious order from the Secretary of Defense to "supplement" Project Vanguard, the Army Ballistic Missile Agency (ABMA) at Huntsville, Ala. has been crashing ahead with its own satellite program directed by Dr. Wernher von Braun (LIFE, Nov. 18). The Army is not expected to get its satellite up for at least a month or more.

The Army satellite, unlike the spherical Vanguard and Sputn k I, will be a cylinder, which permits more efficient packing of instruments. Now being built by Caltech's Jet Propulsion Laboratory, it will be 80 inches long and six inches in diameter. It will carry two radio transmitters and instruments to measure temperatures and study cosmic rays.

The rocket being prepared to launch the satellite is a modified Jupiter-C, which is probably a three-stage or four-stage rocket. Over a year ago a Jupiter-C went 3,500 miles and reached an altitude of 600 miles. It was a Jupiter-C that carried aloft the nose cone, displayed by President Eisenhower on television, that had successfully re-entered the atmosphere. This feat had been accomplished in studies for the full-sized Jupiter (apposite page), the Army's biggest missile, which will have a 1,500-mile range.



ARMY JUPITER is pushed upward by white-hot column of flame from launching platform at Cape Canaveral, Fla. Irregular orange cloud spilling down along

flame is overflow of liquid oxygen used in fuel mixture. Black stripes painted on the missile help trackers to follow its angle of flight through their telescopes



ANTIAIRCRAFT MISSILE may be the foreconner of automissile missile. This is the Air Force's Bomarc taking off in a blaze of flame on test flight. Built by

Boeing as a supersome inter-eptor of enemy bombers, the Bomarc will have a range of about 250 nules and reach a maximum altitude of more than 60,000 feet.

# WORK STARTS ON 'AUNTIE,' A MISSILE KILLER

by DON SCHANCHE

HILE both Army and Air Force are pushing hard to perfect their offensive missiles, they are also in the preliminary stages of developing anti-missile missiles. The Army's view was expressed by a general a few weeks ago who commented that, now, the best defense is not necessarily a good offense. The best answer to the intercontinental ballistic missile, the Army claims, is a defensive missile which can blow the enemy warhead out of the sky. Although the Air Force feels a good U.S. ICBM could deter the enemy from launching an ICBM attack, it is matching Army plans. Both services believe a defensive missile could be available within about five years.

The technical problems involved in perfecting an "Auntie," as the anti-missile missile is called, are staggering. It must be able to find and destroy an enemy warhead only about a yard wide as it arches through space 600 to 800 miles above the earth at 10,000 miles an hour. This requires a warning network which will not only detect enemy ICBMs but also will instantly compute their trajectories and distinguish between real warheads and junk sent along to confuse defensive radar. Finally, the Auntie must intercept the ICBM, as far from North America as it possibly can.

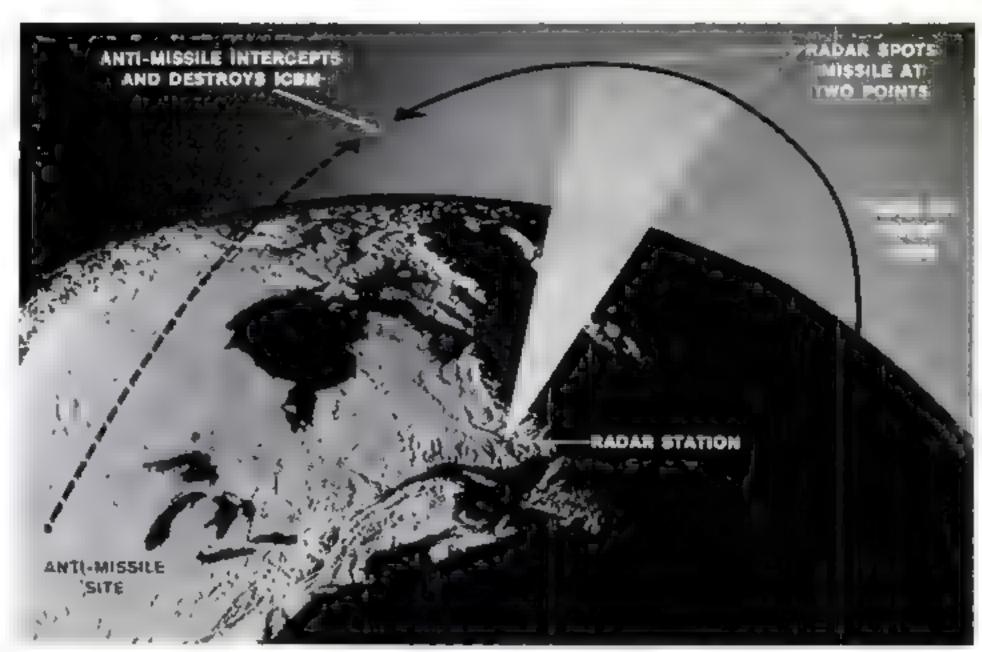
For an idea of the complexity of this operation, imagine 200 soldiers scattered through a pitch-dark room 100 miles square. One of these invisible soldiers has a weapon. Within five minutes, you must pick him out and kill him, also making sure his weapon cannot go off accidentally even after he is dead.

For the first part of this job, experts envision a complex detection network like the Distant Early Warning radar line now in operation in the Alaskan-Canadian Arctic. Computers linked to the radar system would calculate the enemy missile's trajectory within seconds. Missiles emplaced in the target area would then travel up this pathway, meeting the attacking missile head-on.

The Army's nomination for a weapon to do the job is a projected missile called Nike Zeus, which would have a range of about 200 miles and could be placed in operation fairly quickly at a cost of between \$6 and \$7 billion. The Air Force approach is somewhat different. Instead of developing an Auntie immediately, it would push ahead with present work on missile detection. The necessary computing and guidance systems and the weapon itself would be phased into the program gradually, making it possible to use still emerging discoveries and techniques for the development of a faster, more accurate missile with a range of about 1,000 miles. A half-dozen companies are working separately on design studies for the Air Force project, which is called Wizard II.

The decision on how to proceed with the anti-missile program will be made ultimately by the Defense Department's new "single manager" missile agency, announced last month by Secretary of Defense McElroy.

Whichever program is selected, the development problems will be enormous. Although little can be said about the top secret Army and Air Force projects, it is possible to get some idea of the scope of the problems by studying the Air Force Bomare (opposite page). This is a production-line anti-bomber weapon



ANTI-MISSILE SYSTEM is explained in drawing of possible ICBM attack against SAC beadquarters in Orsaha. A rudar station in Canada packs up the

approaching ICBM at two points to determine traactions and target, electronically alerts and miss in battery which fires along trajectory colestros ICBM.

which the Air Force thinks may provide valuable clues to development of the Auntic

The Bomarc is a highly effective guided missile with a maximum range of about 250 miles. In recent test firings it has knocked down target aircraft beyond 100 miles. The Air Force has committed about a quarter of a billion dollars to development and production of the Bomarc, and four east coast launching sites have already been selected for it.

Development of the Bomare was as challenging and often as frustrating as that of any guided missile in the U.S. arsenal.

When Boeing missile experts first set out to develop the Bomarc in 1949, they set down design characteristics not only for the missile but also for its support equipment and even for a complex automatic ground control radar and computer network which would be a filter center for all U.S. air defense. "To take a complete system like that and develop it," says Harvey Gunning, Boeing's chief of missile testing, "is analogous to inventing all at once the airplane, airfields and runways, air traffic control, pilots and even the Stillson wrenches you need to fix everything."

In 1952 a Bomarc was shipped to Cape Canaveral for firing. In the weapon's nose was a transmitter which would send a mass of telemeter information on the Bomarc's performance to tape recorders on the ground. The test almost ended in disaster. For five seconds the missile rose straight up. Then suddenly it turned two wild loops and blasted into the ground less than 100 yards from the control bunker. Total flight time: eight seconds.

But after checking their recording tapes, the testers were exultant. For those few seconds the telemetering equipment had worked perfectly, and the testers had a precise record of everything that had gone wrong. For one thing, they discovered that the rocket engine had burned only sporadically, probably because the fuel had sloshed in the tanks. And the maze of electronic connections had

been thrown into chaos by the tremendous vibration of the motor.

To help solve the problem of vibration, Boeing built a vibrator in which to test components before the weapon was put together. This was a difficult task. Every time a truck rolled by outside, its vibration ruined the test. The company finally had to pour two and a half tons of concrete into the base of the test vibrator and rig a complicated apparatus of wound coil springs to keep out unwanted vibrations.

This process of developing test equipment to test test equipment—"rehability research," as it is called—is probably the most important single element in missile building. It is easy to see why. There are more than 36,000 elements which must function perfectly to make the Bomarc fly. Even if each part fails only once in every 100,000 tries, according to a Boeing expert, only about 7 out of 10 missiles fired will be completely successful.

In the Auntie the problem of reliability will be even greater. The Bomarc, although it can be fired less than 30 seconds after warning, needs almost two minutes beforehand to get its gyros and electronic gear warmed up. With an Auntie there will not be two minutes of advance warning. Electronic components will have to be maintained in a "warmed-up" condition—which means that they could wear out before the missile is ever used.

In flight the anti-missile missile will have to be so fast—perhaps 10,000 mph—that the stresses on all of its parts will be many times greater than they are on a relatively slow interceptor like the 2,000-mph Bomaro. Despite all this, the Auntie will be expected to soar awiftly into space, find its target unerringly, and knock it from the skies. At the target a proximity device will set off a nuclear warhead. Either the heat of the explosion or its atomic radiation will neutralize the enemy apparatus—leaving, at the most, nothing more dangerous than a man-made meteorite plunging harmlessly into the atmosphere.

### IN A CALIFORNIA CLUB-HOT FUELS, A MOUSE AND A STRAY \_\_



**HEATING UP FUEL, Ronnie Nelson.** 19, wears a mask as he stire a mixture of sulphur and zine dust.



LUCKY MOUSE, which missed trip when its rocket did not go off, is inspected by owner Brian Tiep.



ERRATIC FLIGHT over Mojave Desert is taken by a two-stage rocket built by two college boys. It had

### FROM COAST TO COAST, U.S. YOUTH GETS ITS ROCKETS UP IN THE AIR

If U.S. educators now start to put added emphasis on science in the schools they should find an eager, built-in market for it. Last week U.S. youngsters seemed to be firing off rockets all over the place. In Minnesota a high school group sent one rocket about 1,700 feet into the air with a mouse as a passenger. The mouse died when the rocket hit earth, but the students are going to try again with a tiny ejection seat for the mouse. Many of the student rockets failed to go off and others took an erratic course. A fatality occurred in Texas when a high school science teacher was killed and six students were injured in an effort to fire a small test rocket on the school sidewalk.

Adult scientists were full of admiration for the zeal displayed by the youthful rocketeers. The students were getting their ideas from science teachers, textbooks and magazines and were scrounging through hardware and chemical supply stores for the cheapest materials. But scientists cautioned parents against letting the youngsters experiment with

dangerous fuels and fuses without first getting the advice of experts. Firing the rockets should be done under close community supervision.

One of the most seasoned groups of hudding missilemen is located in Glendale, Calif. where 25 high school and college boys form a chapter of the Rocket Research Society. When their rockets are ready, they go to the nearby desert where they can fire at will without much danger of hitting anybody. But each rocket is given a careful countdown to make sure everyone has taken cover, and is fired in professional style by remote control from inside a concrete blockhouse.

At Providence, R.L. last week, students at two schools tried out nine rockets. Four were successful—a respectable percentage, even by professional standards. Dealers ran out of zinc dust which, when carefully mixed with sulphur, makes a good fuel. A local manufacturer who agreed to help the rocketeers found his hands full. "These kids." he said, "give me as much trouble with their specifications as the U.S. Air Force."

### IN A PRIVATE SCHOOL—A WINTRY MEET



**EXPERT ADVICE** is given students at Moses Brown School, Providence, R.L. by Science Teacher Bill Bixby (right) and Carroll Wilson, former AEC member.



HARDY ROCKETEERS from the school prepare to laum h despite snowsform. Carter Buckley, 17 (first rose standing, second from left), got his to 1,650 feet.



exploded prematically as it was lamiched sending second stage scooting scleways austead of straight

into air. No one was liter. Others bred on the sair of day were more soccassful, one going to 5,900 feet.



POOLSIDE TEST to backy and as give—a reacket by Dean Haddon, who has built 11 of there in 2-2 years,

### IN A PUBLIC SCHOOL-POLISH, PUSH AND POW!\_\_\_



POLISHING ROCKET in his workshop. Dick Cadwgan is aided by Dave Petty (left), Charles Eldredge,



PUTTING IN FUEL, the boxs use a broomstock to temp down their own zine dust salph in formula.



R I builders let Angela Springfield press the switch

from bel ind harricade of overturned pictic tables. Rocket taved on the ground but its new went sp



### AIR FORCE AND SCIENTISTS ISOLATE THEMSELVES TO MAP FUTURE

In a week when new ideas of technology were badly needed, top generals of the U.S. Air bord met quietly with top U.S. scientists in a desert hiddaway. Between sessions at a Chandler, Ariz resort hotel which had been emptied of guests in preparation for the Air borde talks on fuels, nuclear physics, electronics and geophysics, leaders of the retreat gathered for this portrait. They include 1) Dr. George Valley, chief Air borde scientist, 2) General Nathan Twining, chairman of Joint Chiefs of Staff; 3) James Dochtile, chairman of Air Force Scientific Advisory Board; 4) Dr. Theodore Von Karman, semor scientific adviser, 5) General Edwin Rawlings. Air Materiel Command, 6) Lieut, General Joseph Atkinson. Air

Defense Command. 7) General Thomas Power, SAC commander, 8) General Earle Partridge, North American Air Defense; 9) Dr. Clark Mill kan, aircraft adviser, 10) Dr. Fred Whipple, director of Smithser an Astrophysical Observatory. 11) Dr. H. Guyford Stever, associate dear of engineering, M. L.F.; 12) Richard Horner, Assistant Semetary of Air Force for research and development; 13) Lieut, General Donald Putt, Air Force development Chief. 13) Lieut, General Sam, Anderson, Air Research and Development Command; 15) Dr. Edward Teller, nuclear physics adviser; 16) Paul Nitze, Air Force planning consultant, 17) Robert McClintock, State Department consultant. 18) Dr. Ivan Gesting, electronics adviser.



Holiday dress-ups

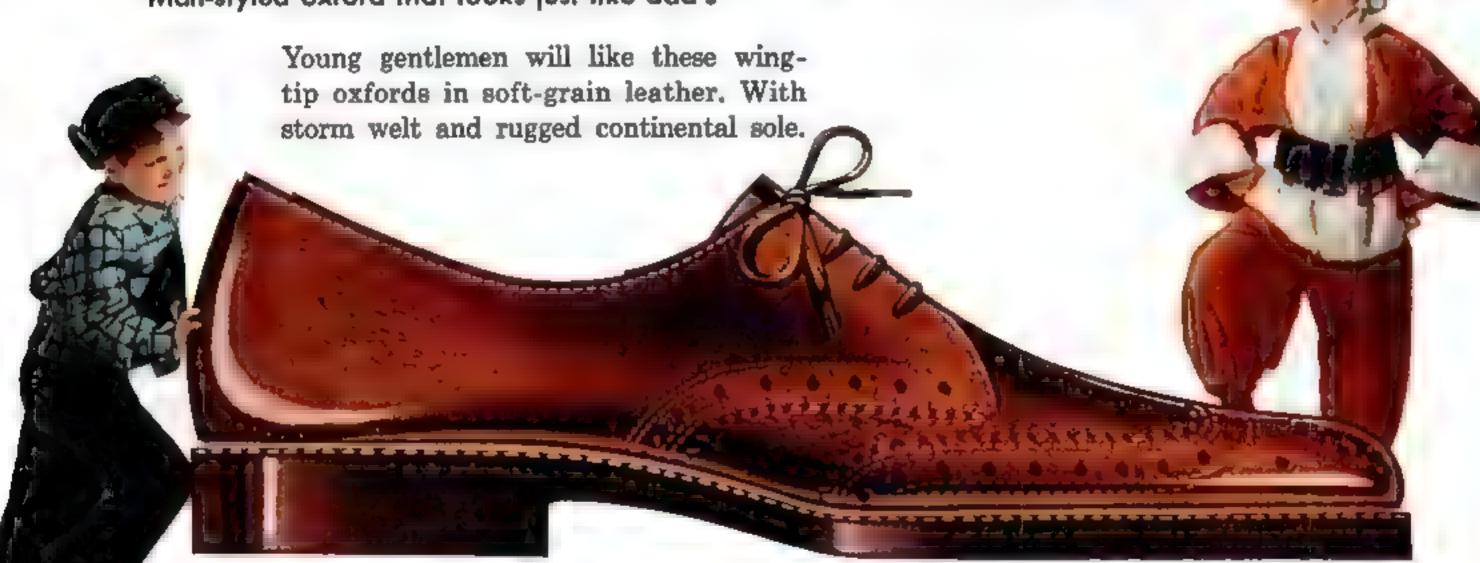
Pretty patent with a swivel strap she can wear two ways

Sparkling party pump that changes to a strap! Has reversible bow with silver trim.



Good for children's feet

Man-styled exford that looks just like dad's



Good for parents' pocketbooks

the good

Shoes filustrated according to size

5.99-6.49-6.99

Other Styles

4.99 to 6.99

Robin Hood.







#### Leading lights for Christmas!

Four Roses presents these illuminating thoughts for Christmas—as traditional as the lights on a tree.

Crystal Quart Decanter. Most beautiful that ever held the finest. One quart of America's favorite gift whiskey at regular quart price. Handsome, Gift-Wrapped Fifth.
Four red roses on removable sleeve.
Inside...mellow perfection.

Gift-Wrapped, World's Finest Gin. A new and spectacular favorite, superbly gift-wrapped in a quilted pattern featuring white roses.



For Christmas . . . handsomely gift packaged

#### EUPHORIA AND THE SCYTHIANS

The U.S. public has shown its loud and justified alarm about the onset of the Sputnik era. A more satisfactory reaction than alarm is called for. The article on page 108 shows how widespread and permanent the competition has become. To surpass it requires the redirecting of some current American values. Here we have resorted to the lens of fable, which often gives a clearer picture of our values than the most extensive restating of facts.

It was the beginning of winter in the Republic of Euphoria. The first snows were melting harmlessly against the panes of the overheated glass houses. The stores were bright with the artificial light at which the Euphorians excelled. The children of Euphoria, healthy, lithe and mobile, rushed about on mysterious four-tired errands, but faithfully came back by evening to cluster around the magic happy screens in every home.

Before screen time, generally, they attended the Euphorians' schools, which were called "Pursuit of Happiness" schools, after an ancient theory. There they were taught principally to get along happily with other Euphorians. A certain amount of learning was required of them, so that they could advance to the level of the popular college, where the smiles were brighter, the cars faster and the happiness possibilities almost without limit.

When they grew older, the Euphorians gave up learning for earning. Earning was a sure path to happiness. The fast return had once performed its alchemies with magic swiftness. Better now was the slow, sure return, with fringe benefits. The comfort and security thus gained made all things possible for Euphorians but, eliminating the necessity of doing most things, made only a few things desirable. Yet the rewards of earning were varied enough to keep the Euphorians from appalling fates like single-mindedness or contemplation or eccentricity.

Most appalling of all were two major failings which the modern Euphorians atavistically called heresies—discontent and curiosity. In this country of smiles, where sophistication was the ability to sit unfunchingly through a play without a happy ending, the true Euphorian did his best to conceal any breach of contentment as quickly as it appeared. This ability grew to be prodigious. The Euphorians were able to apply it, with some success, to facts as well as opinions.

The task of killing curiosity was more difficult, since curiosity had long ago been regarded as a virtual Euphorian patent. But modern Euphorians, with so much done for them, preferred to let curiosity gradually doze off. They still said in their speeches that every Euphorian boy liked nothing better than to take a car apart or explore the sources of a forest river. But the cars grew too complicated for amateur repairmen and everyone knew that all the forest rivers were already carefully mapped.

Critics occasionally questioned whether the happy Euphorians were not destroying their own traditional austerity of mind, valuable in repairing furnaces, inventing nuclear processes, and separating the components of hazy diplomatic situations. The modern Euphorians replied that mental austerity was as uncomfortable, unnecessary and outmoded as a kitchen without push-buttons, or a speech without slogans. Then they would repeat the new national anthem which the children were taught in the happiness schools:

"We are the biggest; we are the best; We are ahead of all the rest."

It was at this point in their history, when the winter cruise season lured the mambo-dancing Euphorian vacationist and the schoolchildren in unprecedented numbers were learning how to drive cars and explore their own psyches, that Euphoria found out that it was not ahead.

The latest "ultimate" weapon of destruction had been devised

and perfected by the Scythians, a larger but traditionally dumber people whose national symbol, the scowl, had been warring with the Euphorian smile. It was impossible to claim that the Scythians had stolen the weapon from them—a source of curious reassurance in similar cases—for the Euphorians had possessed none themselves. Nor could they pass the discovery off as happenstance. The Scythian schools, not sophisticated enough to give courses in life adjustment, had long been developing a formidable system of study and practice in the newer scientific disciplines.

Their best qualities were strangely effective variants of the two which had long been banished from Euphoria—discontent and curiosity. All the students were chronically discontented. Life in unhappy Scythia made them so. They were also unfailingly curious, if only in the limited tactical pursuit of learning. Under the Scythian system, only the intensive application of curiosity—and hard work—could produce rewards for the student, sufficient to raise him above the common level of discontent.

•

The cold shock of the Scythian menace was soon translated by the Euphorians into calls for "action." Military emergency measures were taken. Then the Euphorians settled down to do a little thinking. They had obvious alternatives before them. The first to do business as usual, but a little faster—was made the more palatable as all the soothing resources of the smile country were brought into action. After all, as a well-known Euphorian metalsmith popularly argued, the Scythians were not "nine feet tall." Scholars cited statistics proving that the annual grain and entertainment shortage in Scythia would ultimately decimate the enemy population—if the Scythians had not indeed by that time become crypto-Euphorians through the influence of the happy screen. Prominent earners cited the invincibility of Euphorian "know-how."

The second alternative was far less happy. It not only implied devoting even larger sums of Euphorian happiness money into tangible efforts at security but, even more drastically, it called for a rediscovery of the traditional austerity of mind. For the Euphorians (of all people) had grown so happy, so modern, so integrated in a new age largely of their own creation that they barely realized that another and still newer age was being discovered—right out from under them.

To train their children for the newer age involved a drastic remodeling of the happiness schools and a reinstatement of the heresics, discontent and curiosity, as honored virtues. It demanded that the healthy, lithe, mobile children, whose ancestors had learned Latin and Euclid by the age of 12, and adjusted later, should relearn some older and exacting habits of mental discipline. For such habits alone could make possible future pushbuttons, space ships and the sane thinking that might use them well. The second alternative demanded, further, that the teacher, the critic and the discoverer be permanently released from their imprisonment in Euphoria's mosted ivy towers and allowed to sit down with the earners at dinner and given money enough to buy a new suit occasionally.

It was of minor concern that the more numerous Scythians would probably still produce more managers, craftsmen and technicians. It was for the Euphorians to produce better and brighter men—discoverers, who were more curious and more divinely discontented than any Scythian ever could be. They could do this only by rediscovering the peculiar individual commitment which the first Euphorians had seen written in their souls—to advance the common Weal by one's single work. In so doing, it would help them to remember that the country of smiles was dedicated to universal life and liberty, as well as to its peculiar pursuit of happiness.

It was quite a choice. There has been a lot of talk about it and the Euphorians are still trying to decide.



HAZY PLATFORM AT CHARING CROSS, WHERE THE FIRST TRAIN LEFT, IS SHOWN HALF HOUR BEFORE WRECK

#### FOGGY, FATAL DAY IN LONDON

#### Train crash beneath a trestle leaves 90 dead, nearly 200 injured



STATION WARNING

London was shrouded by an impenetrable early winter fog, the worst in two years. It was the evening rush hour and in the railroad stations the weary commuters and Christmas gift buyers were crowding aboard trains already late. From Charing Cross station, haif an hour behind

schedule, a diesel-electric, with a thousand passengers aboard, set out for the southeast suburbs. From nearby Cannon Street station a steam train, with another thousand riders, swung onto the same track. Outside the small station of St. John's the diesel paused at a stop signal. But behind it the steam train pushed along at better than 35 mph. With a flash of blue and a grinding, terrible crash the two trains collided. The cars buckled, tearing out the supports of an overhead trestle (diagram,

London was shrouded by an impenetrable early winter fog, the worst in two years. It was the evening

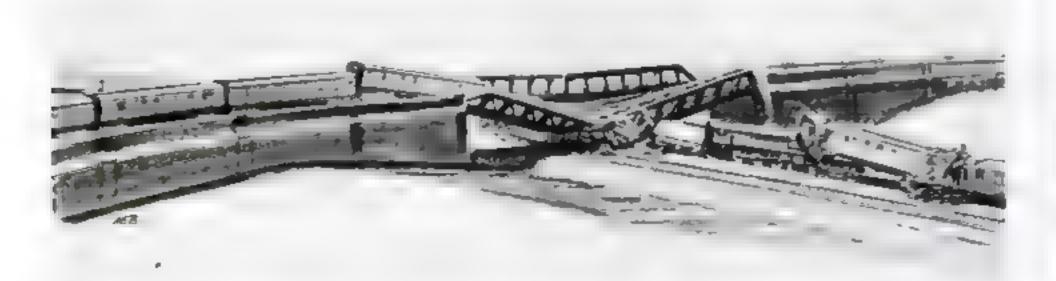
Townspeople stumbled through the blackness toward the wreckage and the screams. Rescuers set to work with acetylene torches, trying to free the passengers trapped in the tangled steel. Ambulances, often guided by policemen on foot, crept to and from the scene.

Through the night, the next day and into the next night the search went on. Finally the dreadful count was in: at least 90 dead, nearly 200 seriously injured. One survivor, badly cut, stumbled to a hospital and said, "Clean me up a bit. I don't want to worry the wife."

It was England's worst rail tragedy since 1952 when 112 died in a wreck. How had it happened? The engineer, in a state of shock, was not yet in condition to give an answer. Said his son, "He's a broken man. The doctor tells him to rest and sleep. But he can't sleep."



IN THE GLARE OF SEARCHLIGHTS, THE COLLAPSED



WRECK'S PATTERN is shown here. First train had stopped to right of 'fly over' or trestle. Second

train, coming behind it from left, bit it. The trestle collapsed, derailing and imperiting third train (left).





TRESTLE LIES ATOP THE WRECKAGE OF TRAIN CARS AS THE RESCUE WORK GOES ON. RESCUERS FACED CONSTANT DANGER THAT TRESTLE WOULD FALL FARTHER



DAZED SURVIVORS watch from embankment as others climb up from the wreckage on track below.

TWISTED RAILS atop trestle hend toward fogoy scene of wreck on the morning after the accident.



A TOP TEAMSTER AT THE CONVENTION, SECRETARY-TREASURER JOHN ENGLISH, VEHEMENTLY TELLS TEAMSTER OPPONENTS THEY CAN "GO STRAIGHT TO HELL"

#### BIG LABOR GIVES THE TEAMSTERS THE HEAVE-HO



PRESIDENT MEANY of A.F.L.-C.I.O. says Teamsters must rid selves of "dictatorship" of leaders.

All spring and summer the biggest show on the American congressional scene was the exposé of graft in the Teamsters union. Last week came the climax—the Teamsters were voted out of A.F.L.-C.I.O. by five to one. Most of the year's show had been staged in Washington where a committee headed by Senator John McClellan laid bare the strange, lucrative business philosophies of Teamster union officials. But the pay-off came in Atlantic City, at the A.F.L.-C.I O. convention there.

Teamster secretary-treasurer, John English (above), railed at the accusing assemblage. He was speaking for the Teamster president-elect, Jimmy Hoffa, busy in New York fighting a wire-tap charge. English failed to impress A.F.L.-C.I.O. President George Meany (left) and Walter Reuther (right) and out the Teamsters went (below). But, though purged for the moment, the Teamsters were sure to retaliate with jurisdictional disputes and membership raids.



VICE PRESIDENT REUTHER of the A.F.I. C.J.O. (right) talks with union counsel, Arthur Goldberg

LED BY ENGLISH (CENTER), TEAMSTER DELEGATES WHO HAD EXPECTED OUSTER ALL ALONG CALMLY FILE OUT OF THE CONVENTION HALL FOLLOWING EXPULSION



# Do you want to spend \$350? Give the Regular Zippo

(The lighter that made Zippo famous around the world. In brush-finish chrome. Guaranteed to light every time or we fix it free.)



# Do you want to spend \$475? Give the Zippo De Luxe

(Finished in highly polished chrome for a sparkling gift. Backed by Zippo's really unconditional guarantee.)



# Do you want to spend \$600? Give the Zippo Slim-Lighter

(Slim shape for the modern purse or pocket. Polished chrome in ribbon, crisscross or diagonal design. Guaranteed by Zippo.)



# Do you want to spend \$11<sup>50</sup>? Give the Silver Zippo

(Elegant, slim shape. Silver-filled—not just plated. Ribbon, floral or diamond design. Guaranteed by Zippo.)



# Do you want to spend \$2000°? Give the Golden Zippo

(The ultimate gift, 10-carat gold-filled-not just plated, Slim shape in rope, scroll or star design. Guaranteed by Zippo.)



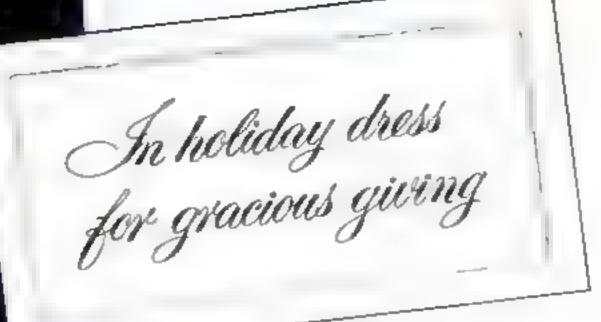
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The

RENTUCKY STRAIGHT DOUBLEON WHISLEY

HEAD OF THE BOURBON FAMILY





one bourbon your friends

# your friends would select for themselves

How pleasant it is to give whiskey to friends for the holidays, and know that one by one they'll say "just what I wanted!"

Gaily dressed in its beautiful gift-wrap for the holt-days, Old Grand-Dad is a symbol of both your friendship and your good taste.

The finest of all bourbon whiskies, Old Grand Dad is the *one* bourbon your friends would surely choose for themselves.

# CHRAID-IDAID



A cellophane sleeve identifies gift wrapped Old Grand Dad, and can be removed, if desired, when presenting your gift







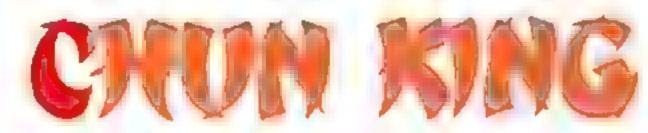
### New Hit For Busy Holiday Time ...Chun King Frozen Cantonese Dinner



T'S.A HOLIDAY IN ITSELF—this delightfully different, no-work dinner. Three of those wonderful Chun King American-Oriental foods all dished up for you on a shiny serving tray.

And look at all you get: Two Cantonese egg rolls made from delicate little fresh shrimp, meat, vegetables and fresh eggs wrapped in crispy-thin pastry. Famous Chun King Chicken Chop Suey with nice big pieces of tender chicken and almonds. Fluffy Oriental white rice. Sound good for tonight . . . and for those holiday busy-times?

This Cantonese Dinner is only one of many Chun King frozen delicacies—everything from chicken chow mein to egg rolls. Chun King is the name that's bringing new excitement to frozen food cabinets. Look for it when you shop.



The Royalty of American-Oriental Foods®

# MAN IN HURRY WAGING PEACE

The U.N.'s fire chief, Secretary-General Dag Hammarskjold last week dashed to the Middle East and doused a dangerous smolder before it could flare into another Arab-Israeli conflagration. The flash point was Mount Scopus, a demilitarized enclave near Jerusalem in the Kingdom of Jordan. For nine years Israeli police have guarded a Jewish hospital and university on Mount Scopus, which has been supplied by twice-monthly convovs under U.N. escort Recently Jordan refused passage of gasoline, alleging Israel was using it for pneumatic drifts digging illegal fortifications.

Israel, protesting that the gasoline was used only to generate Lg it and heat a bakery, talked of shooting its way through. Jordan, charging partiality in favor of Israel, then declared a hoyeott of the U.N.'s chief truce officer, U.S. Marine Colonel Byron V. Leary.

Flying to the scene, Hammarskjold shuttled from Jordan's Foreign Minister Samir Rifai to Israel's Prime Minister Ben-Gurion, Four days of diplomacy won a little from each side; Jordan's promise to let prescribed amounts of gas pass, Israel's qualified promise to permit U.N. inspection of Mount Scopus, long a sore point to Jordan. Then, solving the issue of Colonel Leary by avoiding it —he promised to supply a personal representative for Mount Scopus—Hammarskjold flew home, having both headed off violence and restored some U.N. prestige.



IN JORDAN, Hammar-kjöld confers with speciacled Foreign Minister Rifai, and Jordanian andes.

including Defense Minister Akif al-Faiz and Chief of Staff Hafiz Majah (third and fourth from left).



IN ISRAEL, a simbing Hammarskjöld faces a jovial Ben-Gurion across the conference table, laden with

ash trays and bowls of front. Seated beside prime minister is the I-raeli Chief of Staff Vios a Davior



GOING TO SCOPUS, after Hammarskiold averted the crisis, the supply truck-proceed, escorted by white L.N. cars. They follow winding route leading to the

summit, marked here by the Hadassah hospital building (far right). The cross-road in the middle distance marks the beginning of Scopus demintarized zone.



PATERNAL KISS greets dinglifer Kristin, a Connacticut College sophomore who meets Norstallon arrival at Washington Right is General Twining.



SCIENTIFIC DISCUSSION with Presidential Advisor James Kallan takes applies depondents, particularly in the land of missiles, as related to NATO.



GETTING FITTED for unitorms. General Norstaditakes time to visit his Air Force tailors in Cincinnati while there to address educational conference.



FOUR-STAR AUTOGRAPHS for teachers to how Community NATO speech. Says Norstad. You get a real return from talking to people, face to face."



NORSTAD, WHO LIKES TO DESCRIBE NATO AS A "SHIELD," RAISES A DETERRENT HAND IN ILLUSTRATION



ON A PROTOCOL TRIP to Canada last of the 15 member nations of NATO to be visited by Nor tall, he converses with Prime Minister John Diefenbaker.



AT SHAPE BALL, a charity affair guests (teft to right) and ided bren I General Ganeval, Mrs. Norstad, NATO Secretary-General Speak, Mine Gane



by General Norstad aboard plane. After take-off he usually exchanges uniform tunic for a sport jacket.



courtesy call to Norstad's office at SHAPL is made by Presidential Press Secretary for Hagerty, in Europe to set up U.S. press plans for meeting.



BIRTHDAY DINNER for old NATO hand and old friend. Field Marshal Montgomery, was given day after Monty, 70, had announced be would retire.

#### STRATEGIST PREPARES FOR A SUMMIT MEETING

#### General Lauris Norstad's groundwork provides framework for forthcoming crucial NATO conference

For weeks a precise, professorial military man from Minnesota has been commuting globally by plane, helping to set the stage for one of the most urgent and important events of the year—the summit meeting next week in Paris of the 15 powers of the North Atlantic Treaty Organization. General Lauris Norstad, who bears the title SACEUR (supreme allied commander in Europe), is guardian of NATO's 4.000-mile frontier in Europe and he was to be military lust at the meeting. In preparing for it he had flown to America for a final preconference report to his chiefs in Washington, for a protocol visit in Canada, for a Pentagon conference with the President's top science adviser and for a speech in Cincinnati about NATO to kick off American Education Week. Then, back in Europe, he checked over last-minute details for the meeting and embarked on a stepped-up round of diplomatic affairs.

Lauris Norstad's main preparation for the meeting was done; a report on Europe's minimum military requirements which will be a principal basis for political discussion. It had been delivered to the NATO council Though the political deliberations will be conducted by civilians. Norstad himself will be on call at every conference to give data and advice. Norstad has some specific ideas to have presented to the meeting. One is a joint scientific committee of NATO nations which he believes could be charged with developing a missile suited to the organization's defense needs. Another is giving atomic training to all members of NATO. A third is an integrated air defense system for Western Europe backed by a warning system somewhat like that in operation in the U.S.

As last-minute conferences with his major European commanders and early-arriving superiors took place, the SACELR last week spoke carnestly and hopefully: "This is an important opportunity. It may be compared only with the establishment of NATO and outbreak of the Korean war. It's all very well to make statements of principle, but now we must make a statement of the things we are doing—the tangible things. There are times when being just 'good' is no good. And this is one of them."



val, General Norstad, Lady Coleridge, wife of NATO executive secretary, and General Valluy, the commander of SHAPE ground forces in central Europe.



RECEIVING VISITOR at SHAPE, Norstad listens to French President René Coty speak, Left of Coty is French Defense Minister Chaban-Delmas, Bebind

hun is Colonel Struempell of Germany and Italy's Brig. General Pistotti. Behind Norstad is Brigadier Cross of Britain and Brig. General Enkan of Turkey.

#### NO ADMITTANCE

#### EXCEPT WITH

- I. COSMIC TOP SECRET CLEARANCE
- 2. NEED TO KNOW
- 3. APPROVAL OF DUTY CHIEF

RING BELL





FROM INSIDE "SHOC" (Supreme Headquarters Operational Center) Norstad looks out guard window. SHOC is the nerve center of the alliance. From its soundproofed, map-covered, intricately burglarproofed precincts the Supreme

Allied Commander can control the forces of his command. "In SHOC," says Norstad, "we have posted constantly data of the greatest, greatest secrecy-planning information and current data. So we take very special precautions."

### This Christmas buy cartons of Luckies!





Give Luckies ...



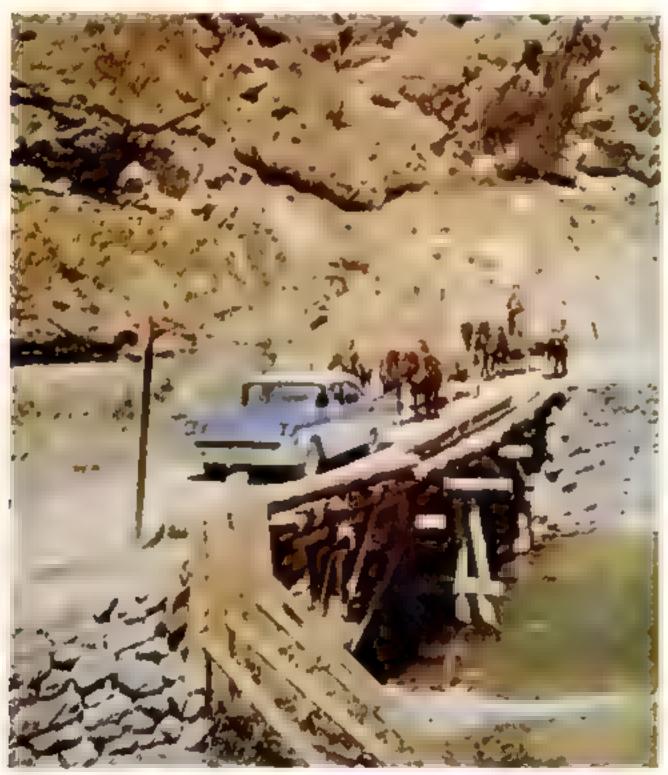
Serve Luckies...



Enjoy Luckies!

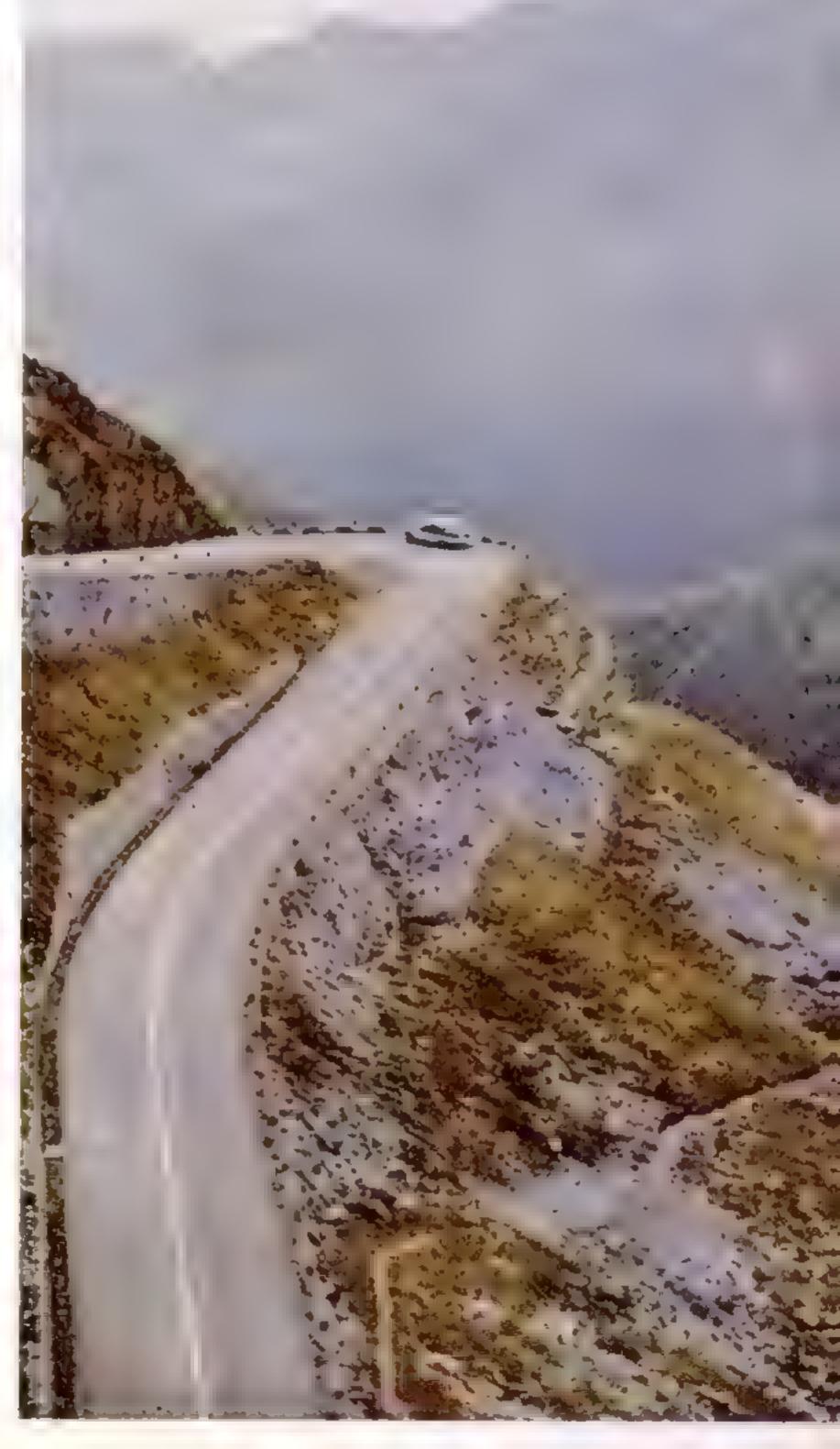
Nothing newer in the world!

A lively leader in London traffic. Take-offs were crisp, praise was enthusiastic on the 55 Ford's traimphal world trip. Cruise O-Matic's numbleness cut traffic down to size. Even the most reserved Londoners agreed Cruise-O-Matic driving was a smooth cup o' tea!



A honey to handle on Yugoslavia trails. They never knew what to expect, but there was never a doubt in the world that the 58 Ford could handle it! Cruise O Matic's extra driving range really "tracked" on loose footing. New Magic-Circle Steering was easy as pointing. New Safety Twin headlights made night driving safer.

Powerful climber in the Swiss Alps. Ford's new interceptor V-8 breathed easy even in the thin mountain air—the supreme test of Precision Fuel Induction, Ford's new carburetion, manifolding and combustion system.



### GRUISE-O-MATIC DRIVE



Style-approved in Parts. Voilal From the new Ford's Power-Flow hood to its sculptured rear deck, the fashion-conscious Parisians agreed there is nothing newer, nothing finer.

# Proved around the world... Ford's new automatic drive teamed with the great new Interceptor V-8 gives up to 15% more gas savings

In all the world there never was a trip like this. But, then there never was a car like the 58 Ford with Cruise-O-Matic Drive! Automagically you can go from crisp, clean starts to turnpike cruising speeds as smooth as Italian silk. Or, step out smartly from a standing start on ice, gravel or snow that would slow a Swiss mountain goat.

There's "built-in" overdrive economy, too. Teamed with Ford's new Interceptor V-8, Cruise-O-Matic utilizes a new low axle ratio . . . saves up to 15% more on fuel!

Want more proof of Cruise-O-Matic's versatility? Take a ride at your Ford Dealer's! There's nothing newer!



#### PROVED AND APPROVED AROUND THE WORLD

50 FORD

The first par ever to use the whole world as a test track

And back home on the American road, there's nothing newer in the world! Drive the new 58 Ford over the roughest back-country roads...or through the heaviest hometown traffic... and you'll find there's nothing newer in good looks, performance, ride, or handling ease. With Ford's new 4-Way Swept-Back Ball-Joint Front Suspension and new Even-Keel Rear Suspension you ride smoother and softer than ever before... you enjoy steady, sure-footed cornering for all-passenger comfort. Try it at your Ford Dealer's—check those low, low prices!

So smart to give...



so welcome to receive



at filling station. Instead he took case of motor oil.



by Joe, were a part of one station a 5-3-93 publing.



**SEAT PAD** is selected at a service station where Joe also chose a flashlight and five gallons of antifreeze.



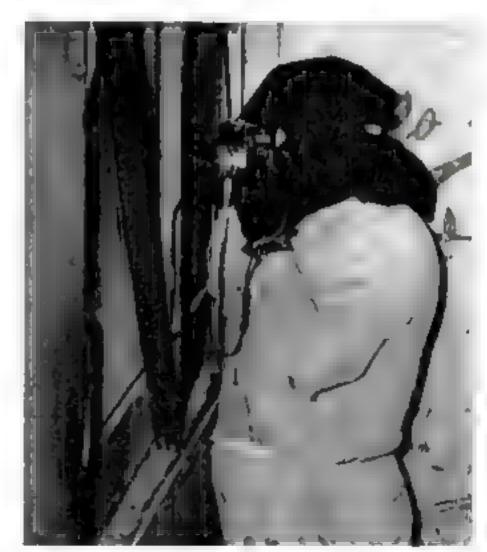
AT STATION WHERE HE GOT 30 GALLONS OF GAS, WAS BILLED FOR 100, JOE CALHOUN HOLDS A TRICYCLE

#### FILLING UP WITH FUEL LOOT

#### Secret pictures expose truck drivers' mammoth bill-padding racket

Tile innocent-looking men shown here are engaged in one of the most widespread forms of highway robbery in the U.S.: padding gas bills, a practice that costs the trucking industry hundreds of millions every year. To engage in this fraud a truck driver pulls into a filling station and orders, say, 30 gallons of gas. He tells the attendant to make out the charge ticket for 50 gallons. The filling station pays the driver the cost of the extra 20 gallons in merchandise or cash. Later the station collects from the trucking company for all 50 gallons.

To eliminate this abuse, a pair of Texans have designed a fuel meter which registers the amount of gas actually pumped into the truck's gas tank. To impress prospective customers they sent a salesman, Joe Calhoun, on a four-day loot-collecting trip. With Calhoun, who used to run a filling station and admits he padded accounts to survive, went LIFE Photographer Tom McAvoy. Through small holes in the truck McAvoy photographed the loot as it rolled in—\$210.61 in merchandise and cash.



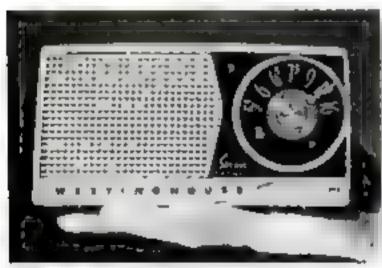
HOODED PHOTOGRAPHER, Tom McAvoy, wears black, shoots through hole in trailer to conceal self.



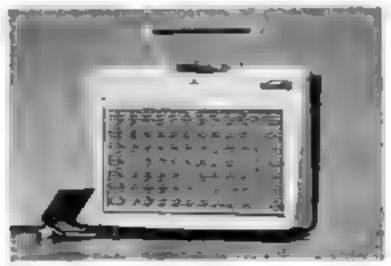
#### WESTINGHOUSE ALL-TRANSISTOR RADIO DOUBLES AS A PORTABLE, TOO

At last—a table radio without a cord! Not only does this beauty play anywhere, but it looks smart anywhere too . . . on a cocktail table next to your eigarette box . . . on an executive's de-k. And how it performs! Runs up to 1200 hours on one low-cost battery. Six transistors plus a diode pull in weakest signals. Its tilt-up

speaker is a full 6" x 4"—larger than many big 21"
There's even a handle so you can use it as a portable!
Unbreakable cabinet in Charcoal or Lemon & White,



transistor portable his in purket or purse, yet gives big-set reception. Transistors won't burn out. Runs on low-cost battery. 3 rich colors.



This 3-way portable plays on AC, DC or long-life batteries. Battery clip lets you use flashlight batteries. Unbreakable case in two-tone colors.

557P4

90-DAY PARTS AND LABOR WARRANTY ON ALL WESTINGHOUSE MADIOS!

#### YOU CAN BE SURE ... IF IT'S Westinghouse

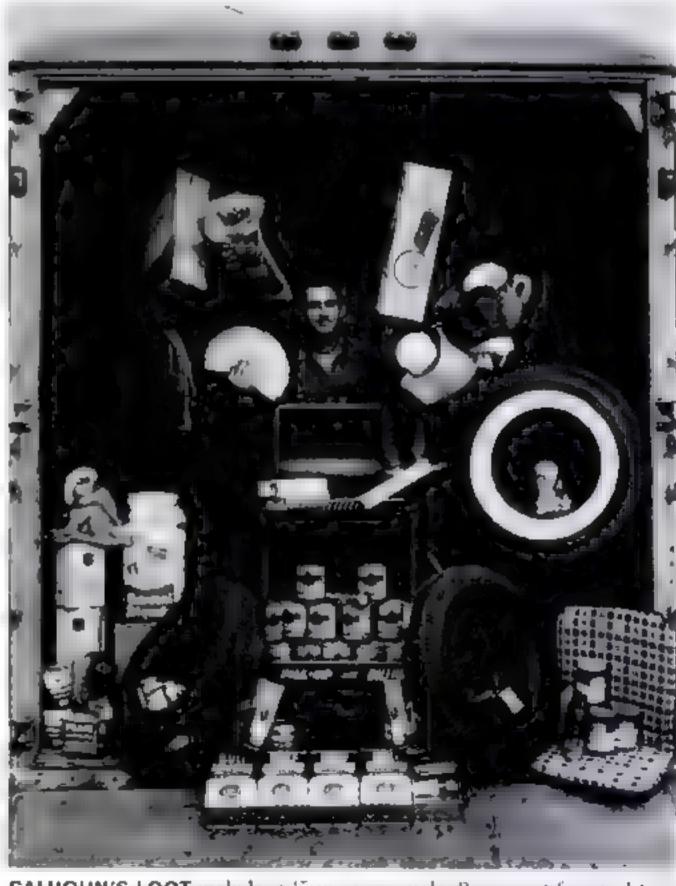
Television-Radio Division - Metuchen, New Jersey



FUEL METER to foil padders was designed by Ernest Porterfield (left) to be sold by Vernon Barge (1920) and his Sentinel Products Corp. for about \$ 25.

#### A METER AND A TRUCK'S TAKE

Joe Calhoun covered 886 miles on his padding expedition. To compress several months' experience into four days he carried thirty 55-gallon gasoline drums in the truck trailer, pumped the gas from truck tanks to the drums at regular intervals. Altogether he made 24 stops. His bill was padded at every stop but one, where a company supervisor happened to be present. He actually bought 918 gallons of gas, but the bills showed 1,624 gallons. The loot (below) included everything from a charcoal grill to a panda. But what made Calhoun's feat really impressive was the fact that he did it "cold." He was a stranger at all of the filling stations. If he had been a regular customer he probably would not even have had to suggest the deception. All that he would have had to do would have been to say how much he wanted.



CALHOUN'S LOOT includes \$47 in cas a panda 8 cans antifreeze, 3 tires seat covers, seat pad, auto rugs, proporties and grill, oil, wagon and 4 statues.

61757

# WHY NOT GIVE AS GOOD AS YOU SERVE...



And it's so easy to give this year, beautifully wrapped and ready in the handsome Holiday package shown above. A case pleases a dozen good friends. Because to give Early Times means you know good whisky. Of all the fine whiskies made in Kentucky, Kentuckians themselves overwhelmingly choose Early Times over all other straight whiskies. Good, so good it's remarkable.

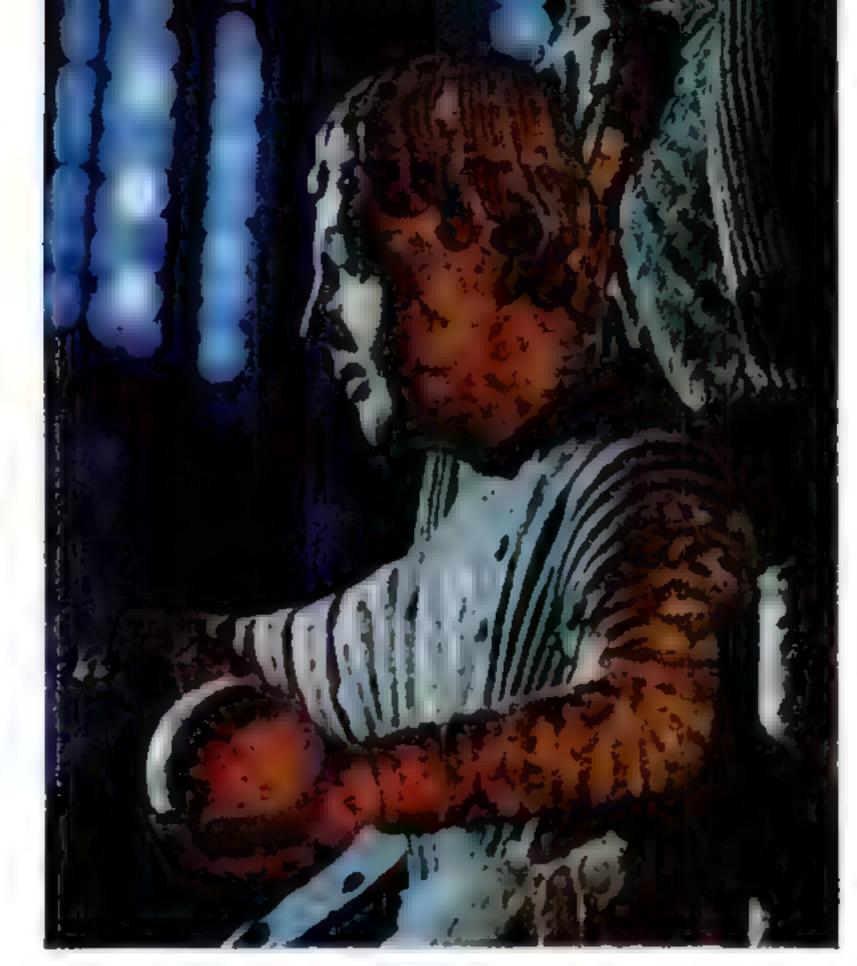
KENTUCKY STRAIGHT BOURBON WHISKY • BE PROOF • EARLY TIMES DISTILLERY COMPANY • LOUISVILLE 1, KY.





Stately Sovereigns of the Spirit

Enthroused in the church of St. Denis near Paris (left), a stately Madonna presents her son to the world. Carved from wood in the 12th Century, the Virgin has a jeweled crown and the Child (detail at right) holds the orb, symbol of sovereignty. Though they display emblems of earthly tulers, Photographer Sochurek suggests their spiritual domain by catching the aureole of stained glass behind them.



# The Madonna and Child

# Three photographers capture the timeless beauty of sculptured masterpieces

Throughout the Christian era the image of the Virgin with the Infant Jesus has recurred with timeless freshness in the great art of the Western world. More than any other theme of Christian tradition, their tender relationship has been an inspiration to artists who have seen in it a supreme embodiment of human and divine love. Among the most moving and majestic portrayals of the Madonna and Child are the sculptured masterworks shown on these pages. Ranging from the 10th to the 20th Century, they have inspired sensitive photographers of today to capture in color the subtle mystery of their moods and the eternal wonder of their beauty.

Photographed for Life by
MARK KAUFFMAN, GJON MILI and HOWARD SOCHUREK

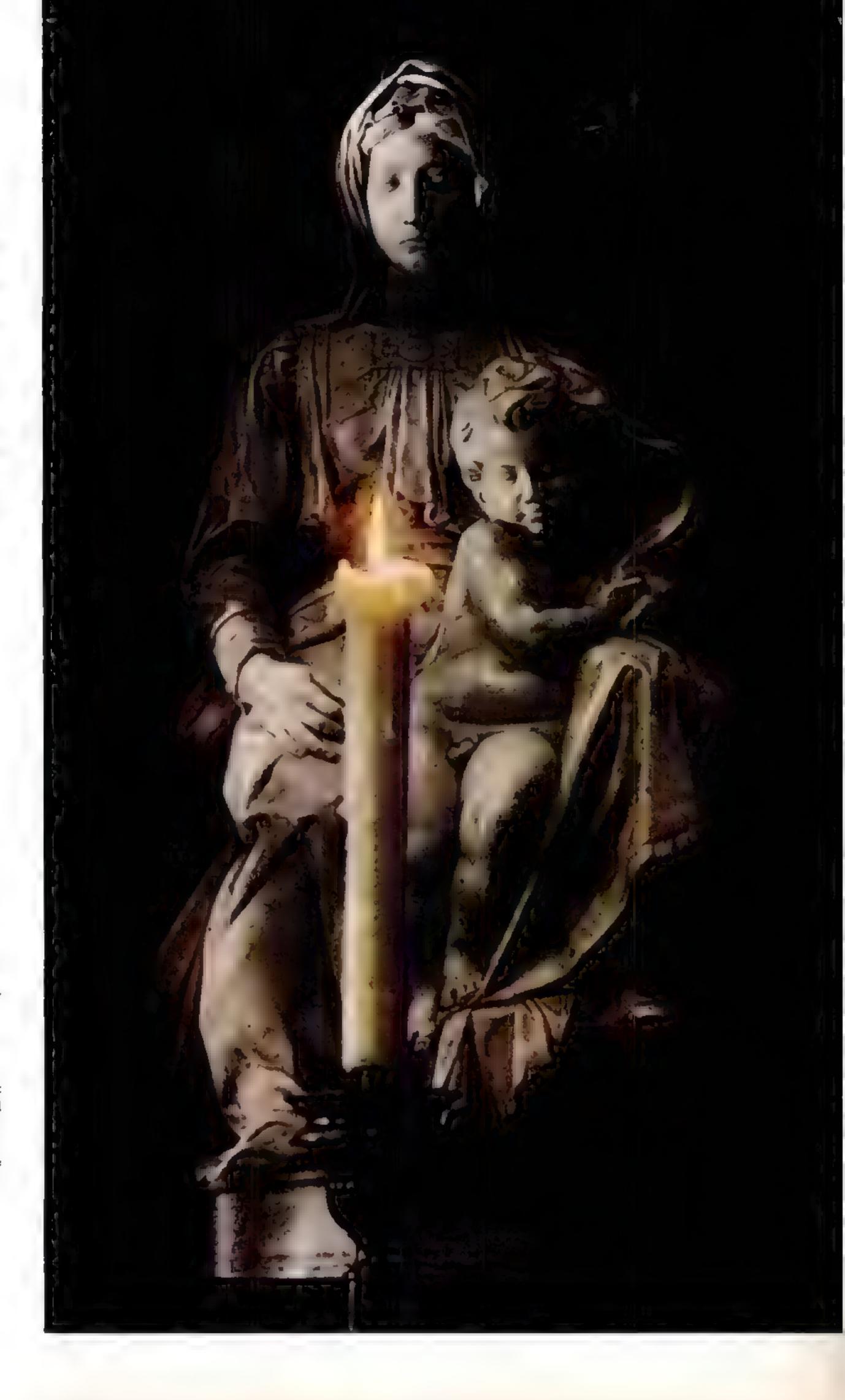


#### Cool Beauty in the Shadows

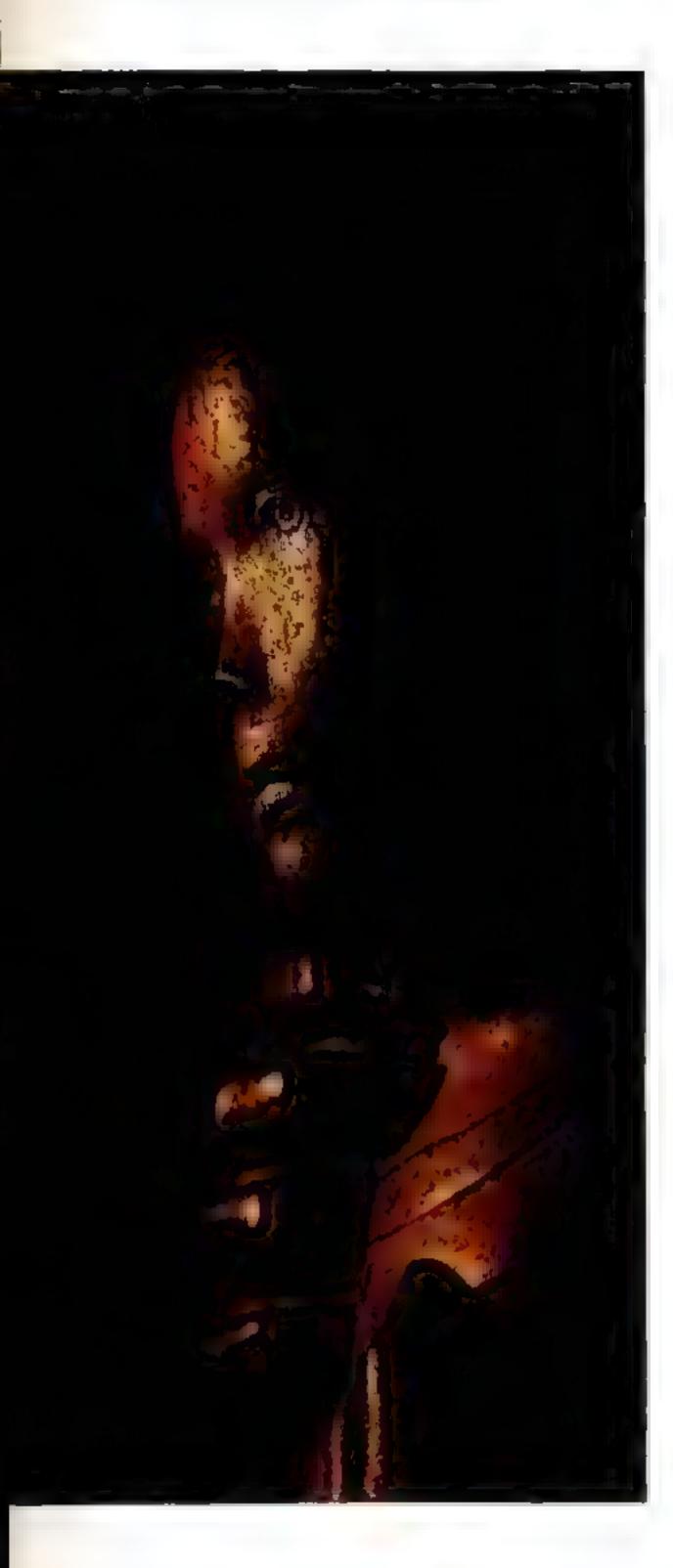
Illumined by a candle in the church of Notre Dame in Bruges (right), Michelangelo's Madonna looks down with cool beauty as her son squirms at her knees. The marble sculpture was carved by the great Italian around 1501 when he was 26. Today the sculpture is installed in a niche above an altar of the church. In Mili's photograph, the Virgin and her child seem lost in brooding thought as the shadows of the niche close about them.

#### Golden Warmth of a Smiling Mother

Amid a circlet of angels (left), the Golden Virgin of Amiens smales upon the tuny babe she cradles in her arm. Ever since the 13th Century she has been poised above a portal of the French cathedral. The brilliant gold leaf which once covered her limestone robes and gave her her name has long since gone—and time has flecked the stone. But here, bathed ın Sochurek's lights, the Virgin basks again in a golden warmth.



#### Madonna and Child CONTINUED



#### A Mother's Protective Hand in an English Church

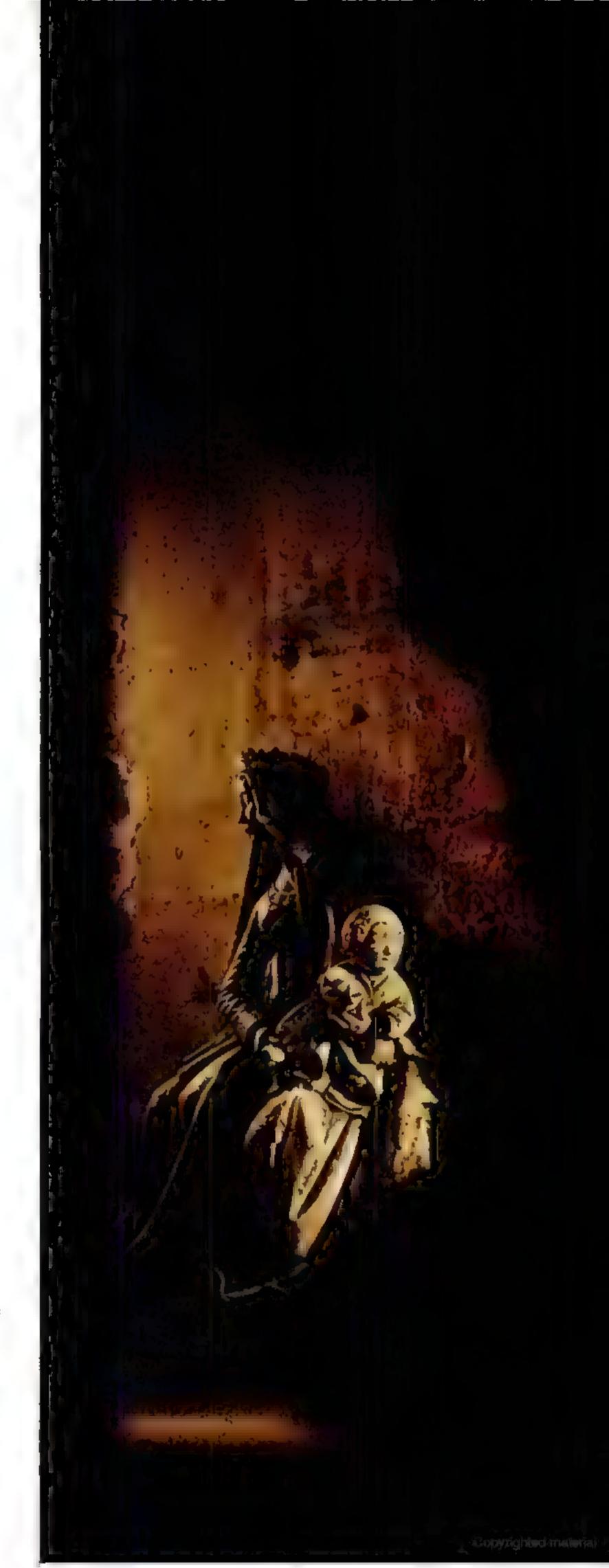
The protective hand of a mother resting on the shoulder of her child, highlighted above conveys the special spirit of the Madonna and Child by Henry Moore. The British artist carved the stone sculpture in 1944 for the Church of St. Matthew in Northampton. In its simple forms the work possesses a monumental dignity appropriate to the setting (nght, in which Kauffman photographed at But the mother's gesture and the child's expression of unocent trust bring to it a quality that is touchingly hum in.





#### A Young Girl's Wistful Gaze in a French Cloister

The robes and crown of a medieval queen adorn Our Lady of Grace in Toulouse. Framed by a shadowy closser in the Augustinians' Museum (right), she holds her round-faced baby amid the folds of her garments. The stone Madonna was carved 500 years ago and enriched with paint. Now, her colors faded or vanished, she bears a look that belies her regal trappings. Her face, seen in profile in Kauffman's photograph (above), reveals the wistful expression of a girl almost too young for the role she is to play.



#### Madonna and Child CONTINUED



#### Stark Figures and Shifting Patterns above a Square in London

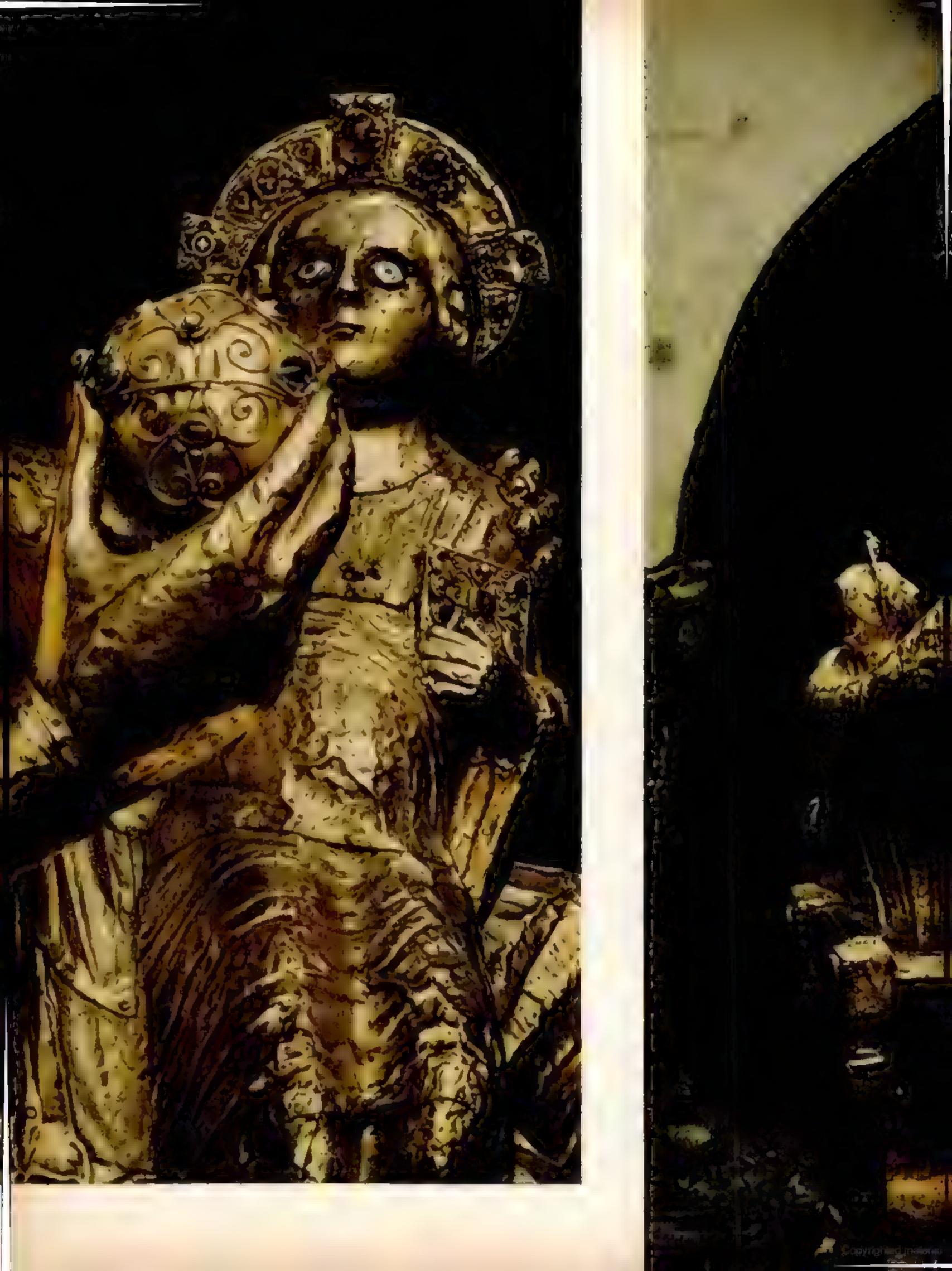
Stark image looks down on London from an archway in Cavendish Square. Commissioned by the nuns of the Convent of the Holy Child Jesus, it was made four years ago by Sir Jacob Epstein, who had the 13½-foot sculpture cast in the lead that was salvaged from the roofs of the war-bombed convent buildings. The rigid formality of Epstein's Madonna and Child is reminiscent of ancient Byzantine art but the lifelike rendering of the heads, hands and feet brings the figures boldly up to date. In the shifting light of London, as Kauffman photographed them, the Madonna and Child change moods and create intricate patterns of shadows upon the wall. Through their postures they convey a double expression of love—the maternal love of the Virgin directed toward her son, the divine love of Christ encompassing the world

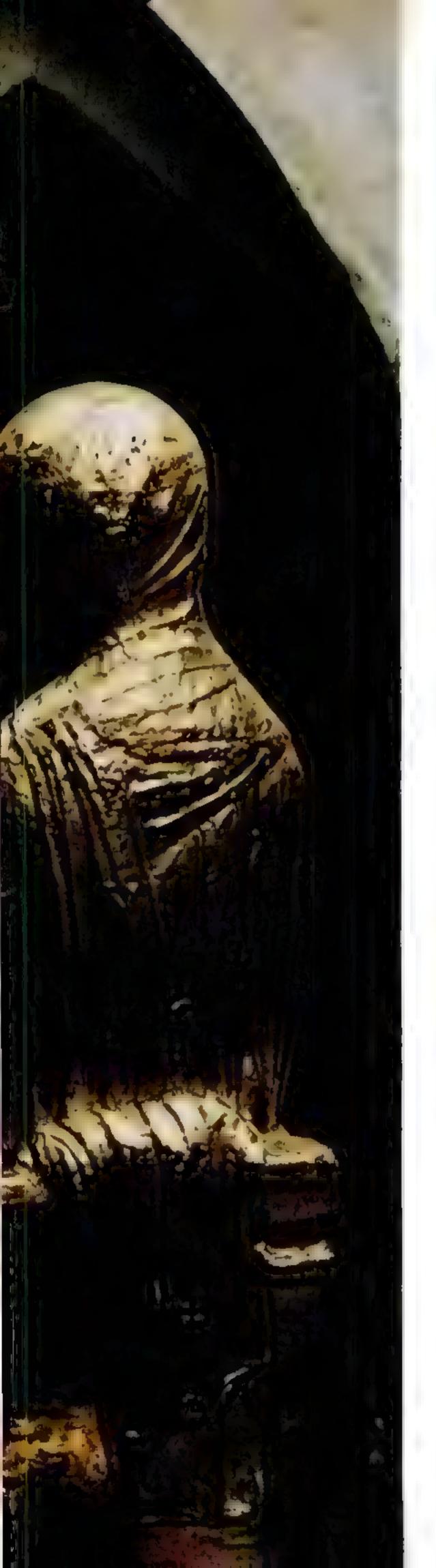


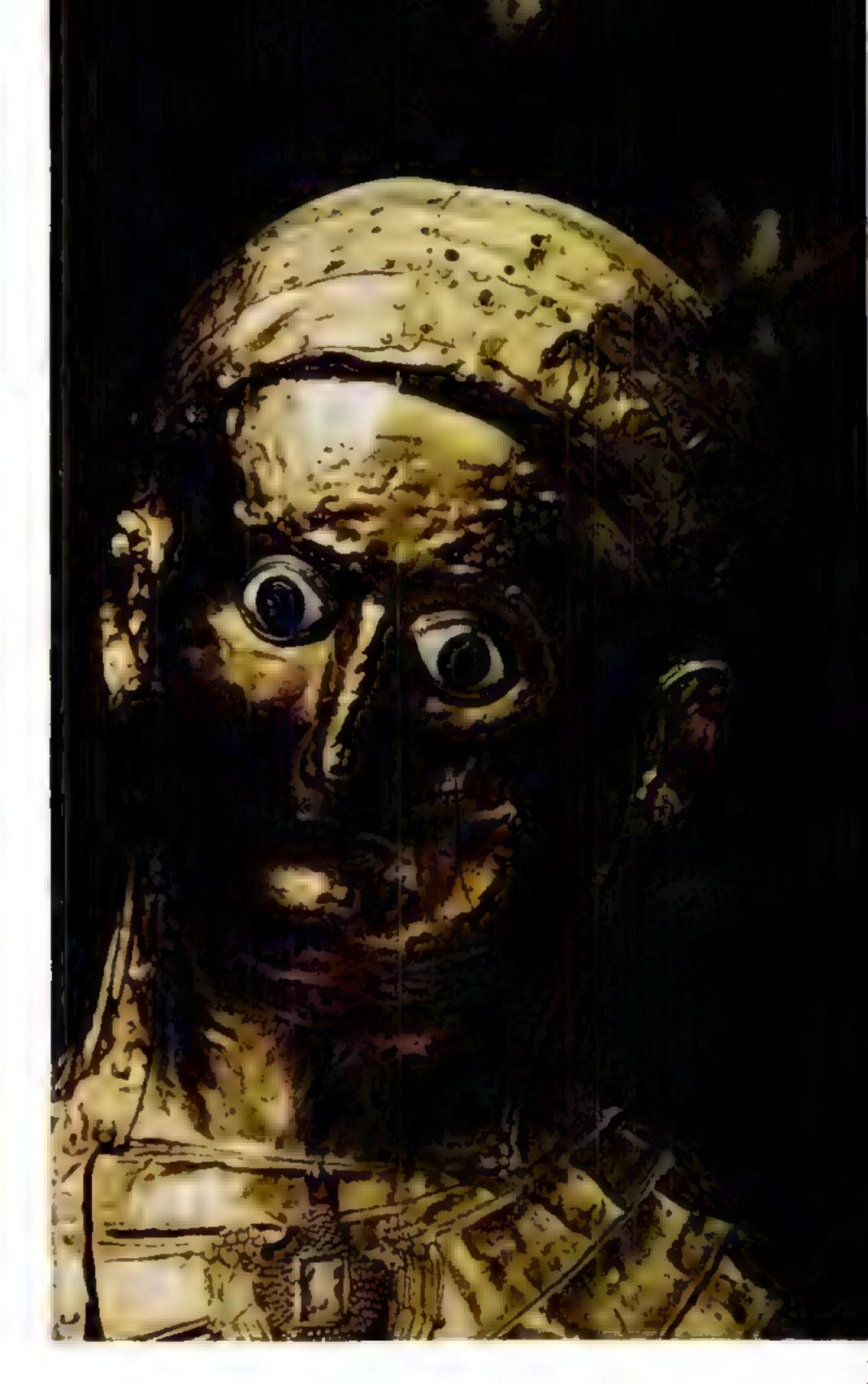












#### A Thousand-year-old German Image Agleam in a Glory of Gold

Adazzling glory of gold envelops the Madonna and Child of Essen Cathedral in Germany. The gleaming statue, 30 inches high, was made around the end of the 10th Century when the German goldsmiths' art was at an unparalleled height. Over a core of wood, the artist hammered and shaped the gold into meticulous forms like the halo of the Child (for left) and the ornate apple which his mother holds as a symbol of redemption from Eve's sin. The Madonna (above), whose enameled eyes stare with wonder at the apple, is herself adorned with a brooch which once held a relic, and her robes (center) fall like a cascade from her shoulders. All these details, singled out by Mila, merge in a historia vision (following pages) as the Madonna and Child sit in the hushed sanctity of the cathedral cloister.







# or the most glorious days of your life!

We would like to make a promise to the man who will own and drive the magnificent motor car pictured on these pages.

Stated in the briefest possible terms, it is this: that he will find it the most deeply satisfying and the most richly rewarding motor car he has ever owned.

We feel we can make this promise in the fullest confidence even to those who have enjoyed possession of the Cadillacs of the past. For never before has a Cadillac offered so many wonderful virtues—in such great abundance—as does Cadillac for 19581

To make its owner proud and happy, for instance, there is its surpassing new beauty, its greater sweep and majesty of styling, and its wonderful new elegance and refinement of line.

To attend his comfort, there is the added interior luxury and convenience of its Fleetwood coacherafting, its still greater quietness of operation, and its improved qualities of ride... especially when he selects Cadillac's air suspension, now available as an option at extra cost on every model.

To enhance his driving pleasure, there is its great new Cadillac engine, its smoother, more responsive Hydra-Matic Drive, its improved Cadillac Power Steering, and its even finer balance in motion.

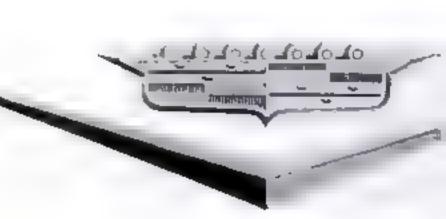
In summary, this is motordom's masterpiece in all the things that make a motor car a joy to own and to utilize —and in everything that makes a Cadillac...a Cadillac!

We cordially invite you to see and to drive this new Standard of the World soon at your Cadillac dealer's. It's waiting for you now—waiting to bring you the most glorious days of your motoring life!

CADILLAC MOTOR CAR DIVISION . GENERAL MOTORS CORPORATION







"THE HOLIDAY FESTIVITIES"



## Noble nibbling!





MISUNDERSTANDING locks place when Good (Anna Magnami), to see a lock wishes correct to brooke. Husband Gino (Anno y Quita estops her,

### Fiery Cast, Gentle Tale

## SULTRY MAGNANI STARS AS AN IMMIGRANT WIFE

Anna Magnam, dark lady of a hundred sultry scenes, descends from the soul-scarching tradition of the great Italian Actiess Fleonora Duse. Anthony Quinn and Anthony Franciosa are schooled in the moody and depth probing Stanislavsky method of acting. These three heavy-breathing, highly chargest actors have now been brought to other mone movie. The result, paradexically, is a sentimental lovely hitle tilm called Will Is the Wind done by Hall Wallis for Paramount. It will probably set as many eyes to brunning and throats to catching as did Wallis. Rose Tation which won Magnam an Oscar in 1955.

Set in the wild Nevada sheep ranching country, it tells of a good-natured but blockboaled Itaban farmer who im forts a wife from Italy and then neglects her. On this overstived lady a young Basque bender casts shorp seves. For iti is who like their acting strong and their stories sweet, the movie is highly satisfying

QUARREL follows when Gino explains to Gina who feels sie has no place in Louise. Just less a rich man and loesn't want his sife to be a servint.



# RELIEF FOR ALL THESE COLD MISERIES

#### with pleasant new liquid!

- · Open stuffed-up nose!
- · Soothe raw, sore throat!
- Loosen phiegm, ease cough!
- Relieve headache, body pains!



No one-purpose remedy gives such thorough relief as

### NEW 4 WAY® LIQUID Cough and Cold Medication!

It's an easy-to-take liquid that's fasteracting! It's a combination of modern medicines that can relieve cold distress more thoroughly than any singlepurpose remedy... better than cough syrups, nose drops, aspirin! It's new 4 WAY Liquid Cough and Cold Medication—with exclusive Rynosec\*!

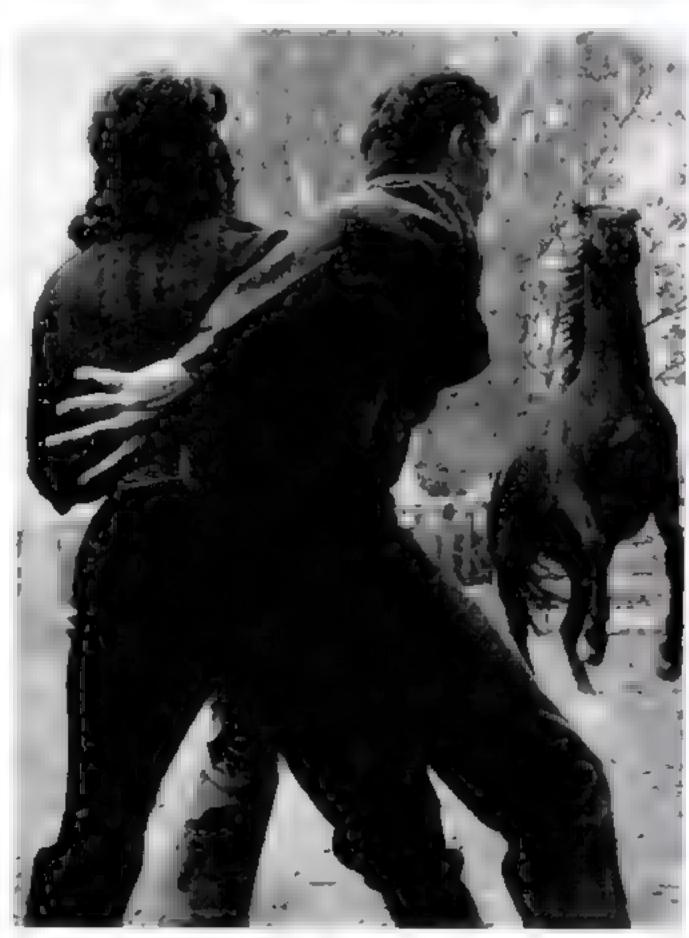
Almost at once, 4 WAY Liquid makes you feel better all over! Yes... being liquid, it's instantly ready to speed relief into your blood-stream, throughout your body! And it contains Rynosec\* too. That's why new 4 WAY Liquid brings more relief, faster relief of cold miseries! At all drug counters now! \*Trademark

#### WHAT ABOUT ASIAN FLU?

The symptoms of Asian Fla are often very similar to those of the common cold symptoms which 4 WAY Liquid is specifically formulated to combat. However, the major danger signal is fever running as high as 102 to 104 degrees. When such symptoms occur with fever, particularly among children under 3 or adults over 65...consult your physician

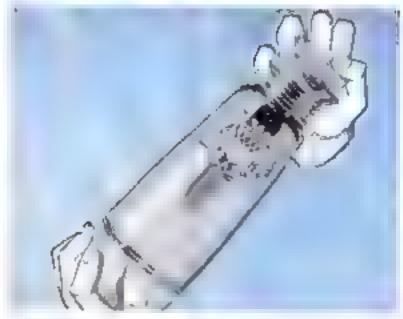


HELPING WITH LAMBS, Gona is happy when she works. Here she holds new-born rejected by its mother while herdsmen look for ewe to be wet nurse.



SAVED BY YOUNG HERDER, Giois is pushed from a wild horse's hoofs by Bene (Anthony Franciosa) who first rescues her, then makes love to her.

# Wonderful ways to give Calvert



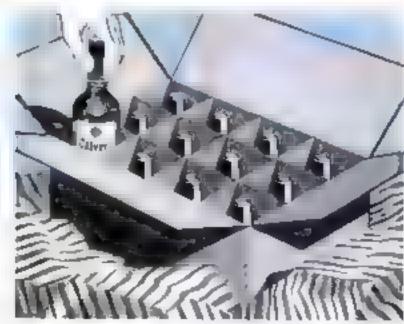
Calvert's Silverglass Cocktail Shaker is many gifts in one! A full quart of superb Calvert Reserve... a luxurious decanter...a perfect cocktail shaker!



Nothing could be handsomer, nothing easier to give than Calvert in the Lustre-wrap package. Slip off sleeve, it's ready to give . . . in red or gold.



The Calvert Presentation Pint, in a red and gold carton, is just the gift for many of your acquaintances—especially if your gift list is a long one.



For someone extra-special, give the Calvert Christmas Case, containing twelve bottles of Calvert, Ciftwrapped at your favorite liquor store.

Nothing finer in American taste

CALVERT DIST. CO., N.Y C.+86 PROOF+65% GRAIN NEUTRAL SPIRITS • AMERICAN BLENDED WHISKEY



Most magnificent choice of the holiday season!

### CLEAR HEADS AGREE:

Calvert gives you more to give-more proudly







# New flowing formula leaves teeth feeling cleaner, whole mouth fresher than tooth paste!\*

Just looking at it, you know you're going to like it—this wonderful new way to brush your teeth. Once you use new Ipana Plus...well, you'll just never go back to your tooth paste tube again!

New Ipana Plus is so much easier to use. A gentle squeeze, and just the right amount flows onto your brush. Stop squeezing, it stops flowing. No waste or mess ever. Unbreakable plastic bottle keeps its neat, new look from the very first squeeze to the last.

New flowing formula is ready to go to work quicker than any tooth paste. It penetrates tiny, hidden crevices between teeth. \*Most people who tested it—even against their favorite paste—said Ipana Plus left their teeth feeling cleaner, their whole mouth more refreshed. (With kids who tried it, it was love at first taste!)

Start brushing with new Ipana Plus today. Until you do, you'll just never know how clean your teeth and mouth can feel!





## Fine Play from Great Novel

'LOOK HOMEWARD, ANGEL' BRINGS WOLFE'S FAMILY TO BROADWAY

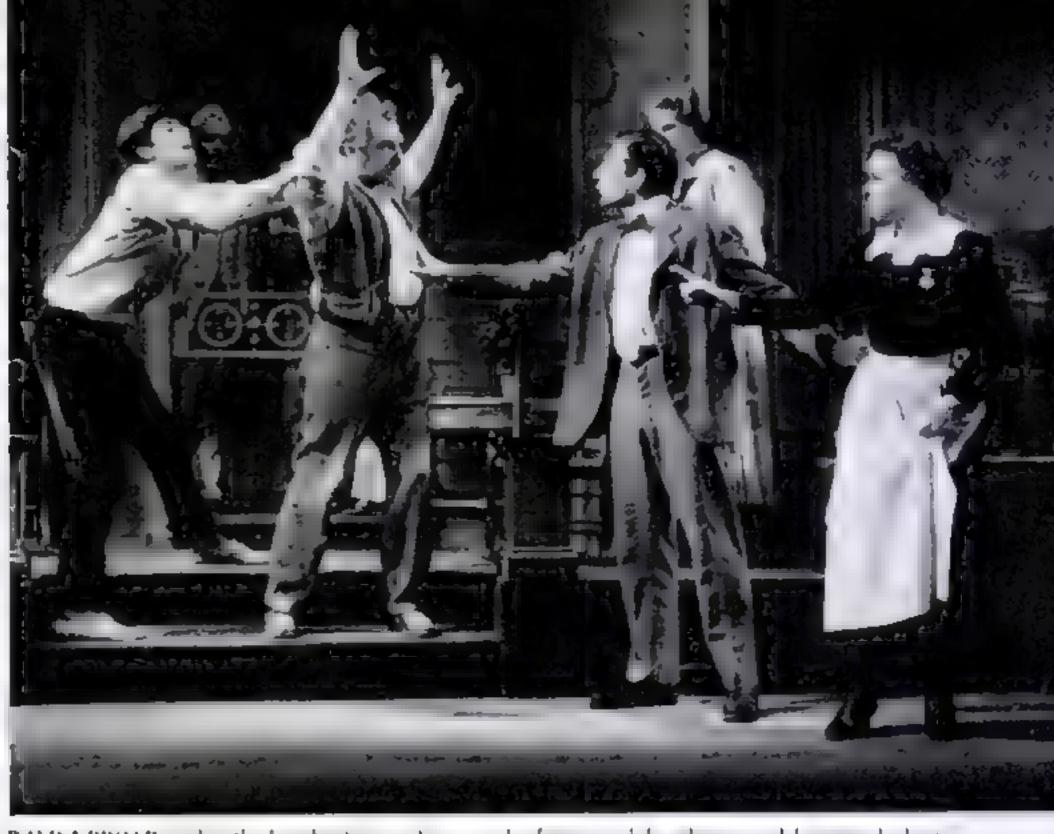
Out of Thomas Wolfe's great first novel, Look Homeson's, Angel, a film writer named Ketti Frings has fashioned a memorable and moving Broadway play. Like the book, the play centers on the family of Eugene Gant and is virtually a chronicle of Wolfe's own boyhood in Asheville, N.C.

Wolfe himself, who is called Eugene, is portrayed as a gangling, restless youth of 17. Around him awarm his placky but penny-pinching mother who runs the Dixioland Bearding House; his rosstoring father; his beloved brother Ben and stouthearted sister Helen; and the pretty boarder, Laura, who first opens his eyes to love. Stepping out of the family album, they are all as Wolfe new them—full of high hope and despair, cruelty and compassion, and streeked with grandeur. In one of his letters Wolfe wrote that the theater must have "some lifting quality headen have, sociid realism." Look Homeword, Angel on the stage has the "lifting quality" that Thomas Wolfe admired.

CONTINUED



SHY COURTSHIP begins is Eugene meets for an (Frances II) and), who terms she is too old for Let



WILD CPROAR shakes the boardinghouse when tather comes from rearing drunk. He is propped up

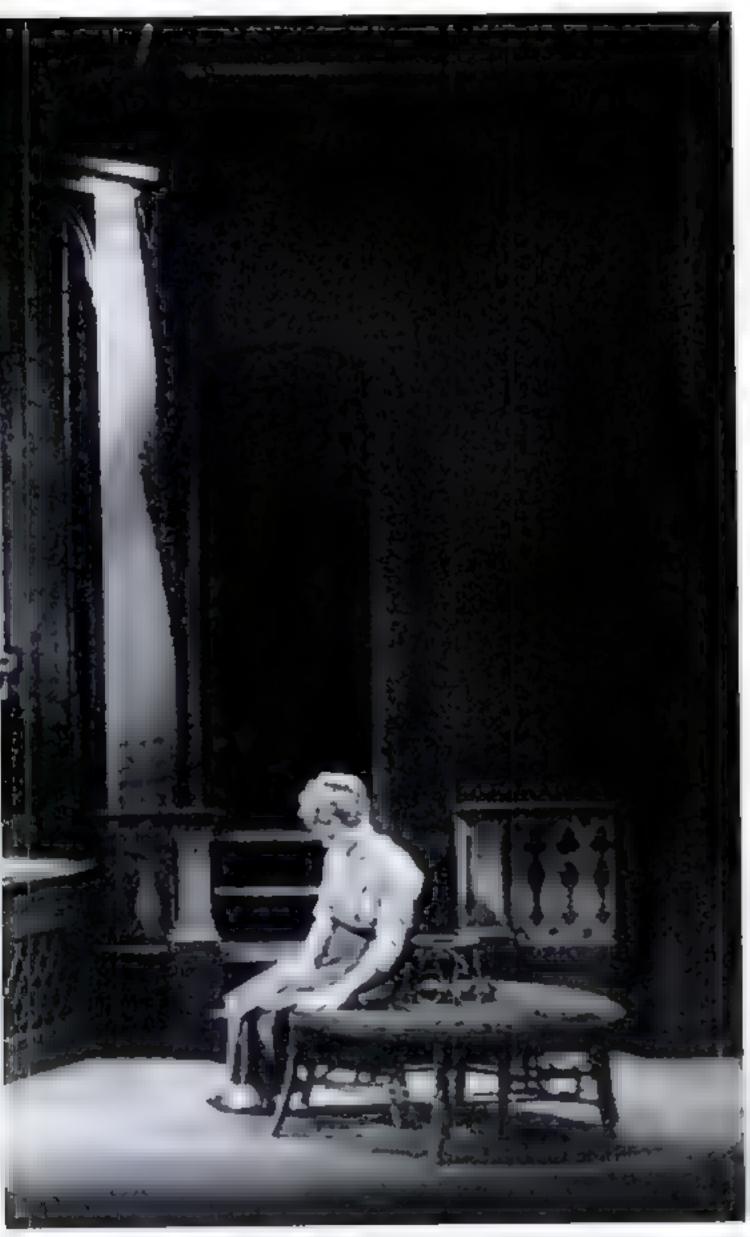
In Engene white relatives and boarders look on and mother the Vin Flort right hawls line out.



TRACEDY DARKENS THE BOARDINGHOUSE AS BEN LIES DEAD OF PNEUMONIA, MOURNED BY HIS MOTHER AND HIS FAVORITE BOARDER, "FAITY," DOCTOR



BROTHERLY LOVE has deep in Eugene and Ben (Arthur Hill), who collapses with coughing fit. Ben urges Eugene to escale mother and Asheville.



IN DOORWAY BREAKS NEWS TO FAMILY, LAURA SITS ALONE AT RIGHT



STRAIGHT BOURBON WHISKY - 86 PROOF AND 100 PROOF - OLD HICKORY DISTILLERS CO., PHILA., PA.



STAGE REBELLION by Engene against domineering mother takes place at play's end. She does not want him to leave, but with help of insurance money that Ben had hift bim he goes off to college.

#### WOLFE FAMILY VISITS THE PLAY

"It was a tremendous emotional experience for all of us." said Tom Wolfe's older sister. Mabel, after the Broadway opening of Look Homeward, Ingel. She had come from Asheville with her husband, Ralph Wheaton, and her brother Fred especially to see the play which portraved all three of them. None of them had read the play in advance, and because it covered so many intimate, and sometimes painful, details of their family life. Mabel said. I went in fear of what I nught see or that the audience might titter." But the audience reacted with sympathetic silence, applause and cheers.

Mabel Wolfe Wheaton, about whom her brother wrote, "she has more human greatness in her than any woman I've ever known," has been Wolfe's unofficial historian for years. But though she watched the play with a critical eye, she had little fault to find. She liked Anthony Perkins as Tom but felt that the most true-to-life portraits were by Jo Van Fleet and Hugh Griffith as the mother and father. As for her own character in the play, she felt that the dramatist had made her too much of a drudge in the boardinghouse, "I never made beds," she said, "or helped with the dishes."



REAL-LIFE RECONCILIATION took place be tween Wolfe and his mother after her (rst shock over publication of Angel. Here at 37, no visits her at Asheville boardinghouse (Life, Sept. 17, 1956).



WOLFE FAMILY MEETS FISELF backstage at Look Homeword. Angel. In the center Mabel Wolfe Wheaton sits in front of Rosemary Murphy, who acts

her in play. At left her brother Fred stands by his counterpart, Actor Arthur Storch. At right Ralph Wheaton looks up at Leonard Stone, who portrays him.



makings of a cocktail party-expertly mixed Manhattans or Martinis that are precisely proportioned from the choicest liquors. And as easy to serve as whiskey. For cocktails on-the-rocks, simply pour them over ice straight from the Heublein bottle. Or stir with ice and serve in regular cocktail glasses. G. F. HELBLEIN & BRO., HARTFORD, CONN.

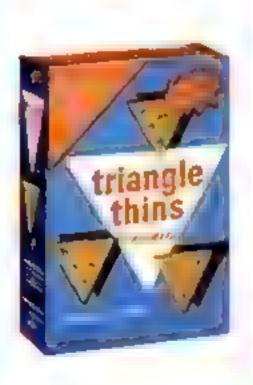
# 10 women make their party plans













NEW BRIDE picks Nebisco Snacks for her first round of entertaining. Tops very thin, very crisp WHEAT TH NS with egg spread and olive slice or with tiny franks. Wonderful plain, too!











hearty teste is baked to order for a beverages. And they're a pleasure to eat just by themselves,

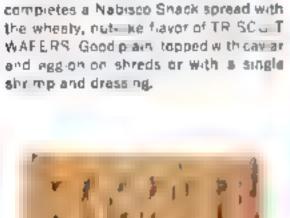


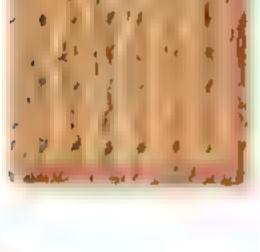
Nabisco bakes the tastiest snacks!

# with Nabisco Snacks



WASHINGTON HOSTESS





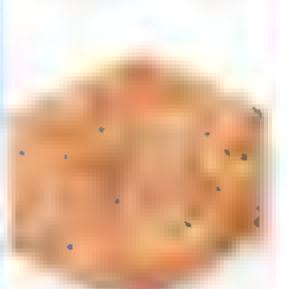








SCHOOL TEACHER goes in for light entertaining with the pungent, racy taste of NABISCO BLEU CHEESE CRACKERS Great with bleu choose and bacon, avocado dip and mushrooms or all alone.



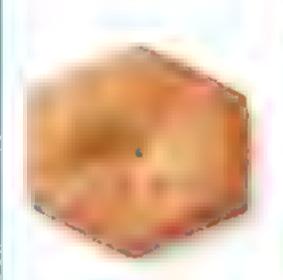








PRIVATE SECRETARY passes Nabisco Snacks around at Salurday in ght get togethers. Serves CHEDDA BITS with garlic butter or cheddar cheese on ham. The crowd loves 'em night out of the box, too.





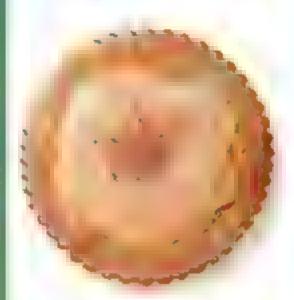






YOUNG GRANDMOTHER treats the family clan to the aged cheddar favor of R TZ CHEESE CRACKERS. Develous as they come, topped with griffed cheese; or with salami and green pepper spread.











COLLEGE GIRL scores a hit with the gang with Nabisco Snacks. Serves or spy, salted VERI THIN PRETZEL STICKS WITH tangy beverages . . . cool temonade, grape juice or cranberry punch.





Plan a party today . . . at your grocer's display!

# YOU'LL KNOW WHAT'S NEW WITH INSTANT CHASE & SANBORN

the second you open the jar!



No wonder Instant Chase & Sanborn gives you a

Captured! That elusive natural coffee aroma so important to complete coffee enjoyment. Now it's yours, the second you open a jar of Instant Chase & Sanborn. It rises to greet you . . . mouth-watering and tantalizing . . . tells you there's so much more flavor in every cup. Give yourself a Flavor Break. Buy the full-bodied coffee today.



INSTANT CHASE & SANBORN - the full-bodied coffee!



### THE BIG SWAN ROUNDUP

Last spring Philadelphia proudly purchased 18 swans from Holland and installed them on the Schuylkill River in Fairmount Park. The big birds Inrived on the Schuylkill and swam decoratively and contentedly about. But one day last week six of the birds ventured two miles down the river, were eaught in a freak current and swept over a three-foot dam. Since their wings had been chipped they were unable to fly back to their penand food. Before they could be rescued six more birds were caught in the current and over the falls they went.

For three days the bordering shore line was baited with food, but the swans ignored it. Then park employes took to boats to lasso them. Their first rodeo efforts netted six birds. Then the men prepared to return for the other say who, though hungry, showed no interest at going back home.

SNAGGING A BROD, THE HENTERS DROP A LASSO OVER HIS ELUTTERING WINGS, THEY HAD THE





How to keep Dad from hogging Junior's trains:

(Give him a 60-second Polaroid Land Camera)



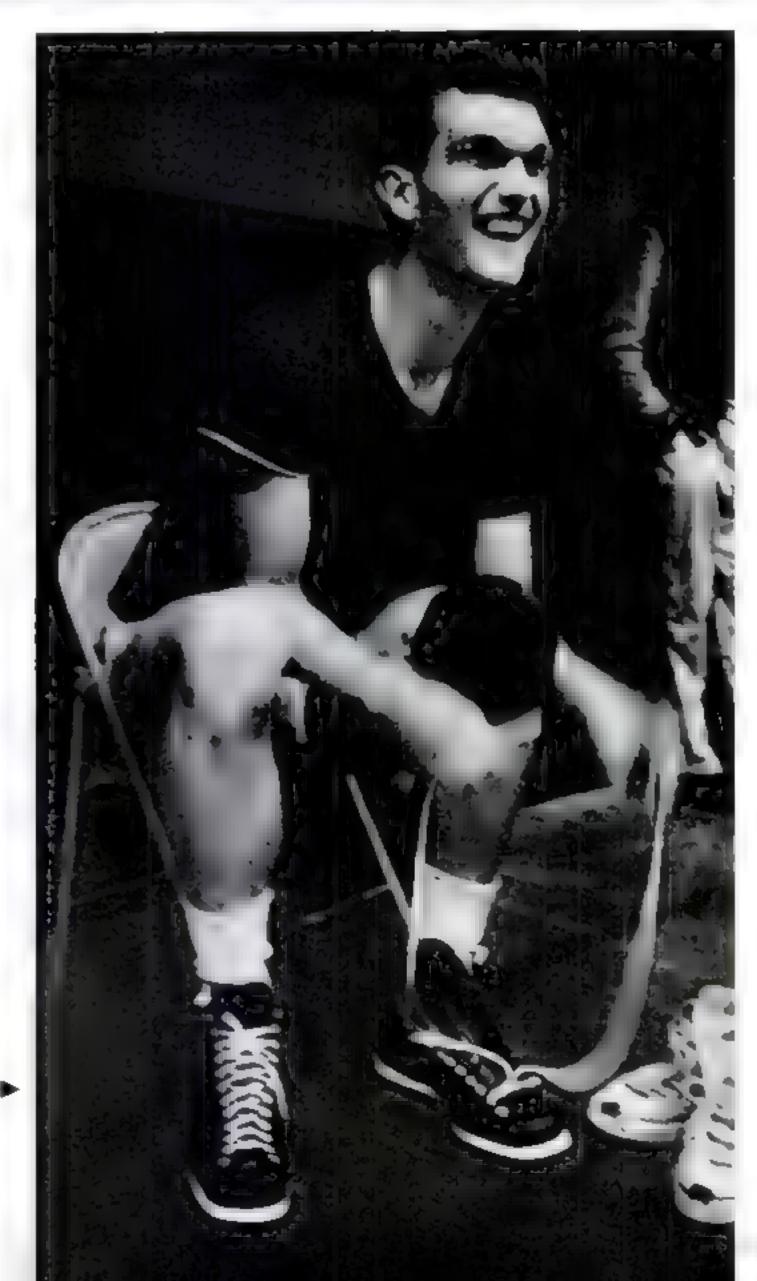
MANUFACTURING BASKETBALL SHOE FOR JEAN LEFEBVRE, BONIFACE COSTA FITS THE SOLE TO UPPER AT HYDE ATHLETIC SHOE CO. IN CAMBRIDGE, MASS

# SIZE 21 DILEMMA IN BASKETBALL SHOES

When 7-foot 3-inch Jean Lefebvre, 20, of Epnais-les-Louvres, France arrived on the campus at Spokane, Washington, Gonzaga University was sure it had a solution to all its basketball problems. But Gonzaga had not considered Jean's feet. To play basketball Jean had only a pair of misshapen size 17 sneakers with the toes cut out which he wore while playing in France a year ago. Urgent calls to shoe manufacturers for size 19s brought more than a dozen astonished replies but only three acceptances of the odd order. A pair of 19s was rushed to Spokane, but they too curled Jean's huge toes. Jean padded painfully through the first two panes, showing scoring promise but tired footwork. Last week a shoe man produced a pair of 21s and, as Gonzaga sighed with relief, Jean happily wiggled his toes in his new shoes and began playing more agile basketball.



IN A DORM CLOSET, JEAN'S SHOES DWARF HIS ROOMMATE'S SIZE 7 LOAFERS



CONTINUED

#### Size 21 Dilemma CONTINUED



ANOTHER GONZAGA HERO, Bing Croshy, Class of 24 meets freshigan Lefebyre at administration bir lding. Jean gets scholarship, free Engash tutor.



SATISFYING BIG APPETITE, Jean has one of three daily makshakes with coed Suc O'Laughlin He also it inks a gallon and a half of orange juice.

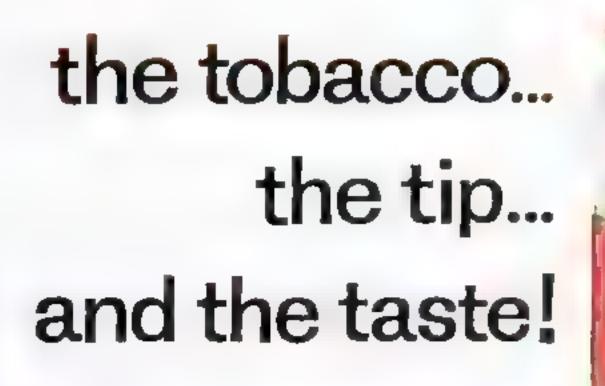


LEFEBVRE'S LIKENESS, a grant entout held by assistant coach, is used by College of Idabo players as they practice shooting high for Conzaga game.

IN FIRST GAME, Lefebyre towers over Lelpless College of Idaho team as Le drives in for a layup, He played about half the game, scored 13 points.



# For Christmas Hit Parade has what you want!



#### The tobacco you want

. . . only the choicest grades of quality tobacco. And it's all 100% natural tobacco!

#### The tip you want

... exclusive T-7 fitter, developed especially for Hit Parade, lets you have your flavor, too!

#### The taste you want

... the freshest, live lest taste of any filter cigarette. Get new Hit Parade today!

New crush proof box or famular pack









1 EDEEL CITATION 4-DOOR HARDTOP

2 CONTINENTAL MARK III LANDAU

3 FORD FAIRLANE SOO CLUB VICTORIA

3 THUNDERSIND

4 MERCURY MONTCLAIR 3-DOOR TURNPIKE CRUITER

FORD MOTOR COMPANY THE AMERICAN ROAD, DEARBORN, MICHIGAN

more new ideas, more will ideas

### LINCOLN · CONTINENTAL

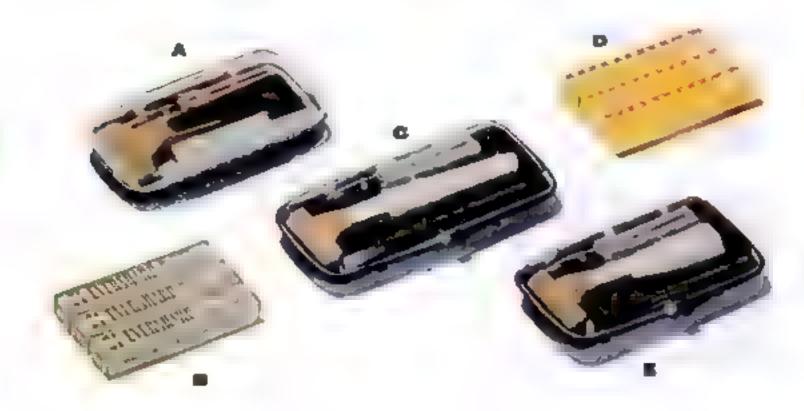


opinion of your opinion. Like the pushbutton transmission control in the center of the wheel. Or the trunk that unlocks from a key at the dashboard. Edsel's 18 models - from station wagons to convertibles-give us a bigger family-with a car for you, at the price you want to pay.

## - in the Ford Family of Fine Cars

Give one as a gift. Buy one for yourself. Only razors that give truly automatic blade changing ... only single edge blades with a double life. Choose from: A Hydro-magic Injector razor with Rip-lever cleaning, 24 "Gold" blades, travel case, \$1.89. Three 24-packs of Hydro-magic "Gold" blades, \$2.94. C All-new Long Handle Injector razor, 12 Thin-edge blades, travel case, \$1.00. D Three 20-packs of Thin-edge blades, \$2.19. ■ All-new Classic Handle Injector razor, 12 Thin-edge blades, travel case, \$1.00.

### Give one of these shaving gifts



Get six holiday figures free









Freel 6 decorative make-'em-yourself Christmas figures with every Eversharp-Schick holiday gift pack you buy!

These colorful, easy-to-make decorations make your home say Merry Christmas. Use 'em on the mantel, as a table centerpiece, on your tree, in a window. You get a smiling Santa Claus, three bright Choirboys, two gay Angels. Each stands about 71/2" high, Easy-to-follow instructions for quick assembly. Get yours today!



Look for this EVERSHARP-SCHICK Christmas display at your favorite store.

# Junior-Hligh Epic of Crusades





LITTLEST CRUSADER, seventh or for Ton Dalkresons. B. I its visor of ver arithografic coloring and series noting base to be not not a gift to the school.



#### JUNIOR-HIGH EPIC CONTINUED



PROCESSION OF CRUSADERS, led by trear king deave castle to fight the infidels in an opening scene as girl at right films sequence with cameric on tripod



STORMING FOR F. Saracens thunder across drawlendge with a pattering ranwhile a populablus the action. Saracens burst through the gate and captured fort

SARACEN AT BAY, seventh grader Tommy Taylor, 12, prepares to duel with a Grusader as Le tries to defend the fortress against Crusader attack



According to a serious are well in monthfully and cipating death of their men-Saire fortress was a self as head quart is alternately of Grasaders and Saraceus

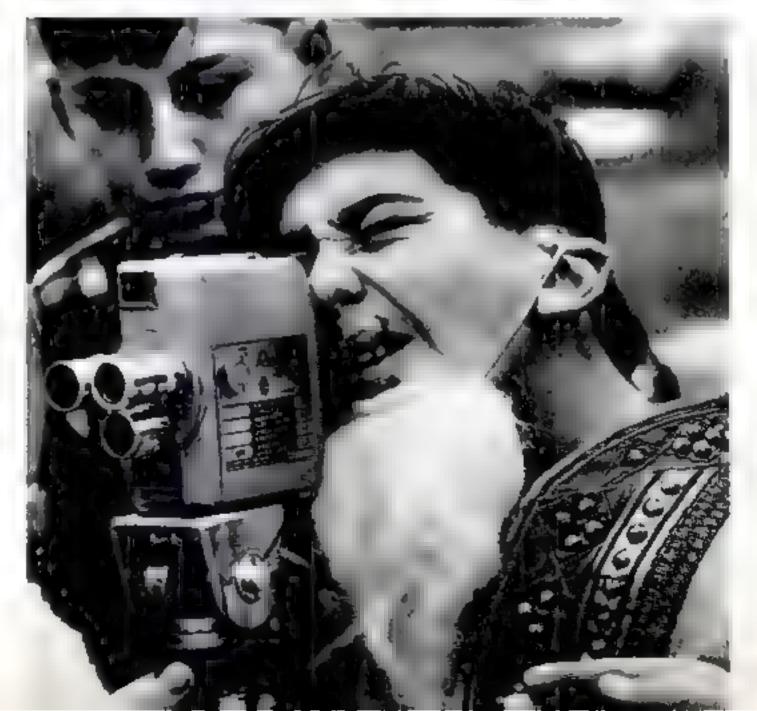


PAPAL MANIFESTO, calling on Christians to free Holy Land. is promulgated by Pape Urban II (Carol Ferrell) as Teacher Ralph Lent directs camera crew

INQUISITIVE INFIDEL Tommy Taylor pauses to take a peek through eyepiece of camera. Elm nukers shot 350 feet, recorded sound on tape

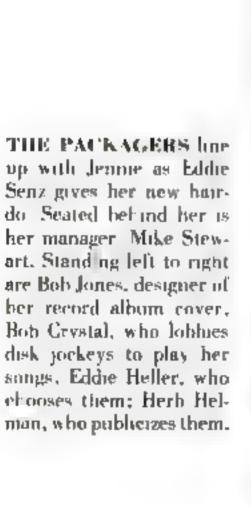


SNEAKERED STEED with bordap body rears spiritedly order Cressiler king. 12-year-old Carol Ferrell, as she rallies troops for Fogland and St. George."





THE PACKAGE, Jennie Smith, sings out My Very Good Friend in the Looking Glass at Velvet Club. Song was written especially for Jennie by Bob Allen and Al Stillman who thought a wistful refearn would fit her fresh voice





## Operation Jennie

Jennie Smith is the neatly packaged result of her agent's belief that a singer with that name would go places. The idea hit Mike Stewart, a hustling New Yorker, eight years ago, and last January he found the right girl to go with it. She is 19-year-old Jo Ann Kristof from Charleston, W.Va., who wants to sing and doesn't care what name she uses.

Stewart named her Jennie Smith and launched Operation Jennie on the proposition that a new singer, like a new breakfast cereal, need only be well packaged to be popular. To design the package he enhated teachers, recording experts, stylists, designers. He had Jennie's figure trimmed of 15 pounds. He had her voice trained so it would take on

color without losing its pleasant quality.

Recently the big push for Jennie reached pay-off proportions. She sang on Steve Allen's TV show, opened with star billing at a New York nightclub and had a record, a 12tune RCA Victor LP titled Jennie, on the market. Between appearances Jennie was studying dancing and trying to do a lot of dieting. "I love strawberry shortcake which I'm not allowed to eat anymore," Jennie says, "So far it's been the greatest sacrifice I've made for my career."



### What does she want for Christmas?

What every woman wants! All your love...and all the loveliness to keep your love.

Help her keep that loveliness with a really feminine gift and a gift that's fun to use—

LADY SCHICK ELECTRIC SHAVER! Made the way a lady's shaver should be made!

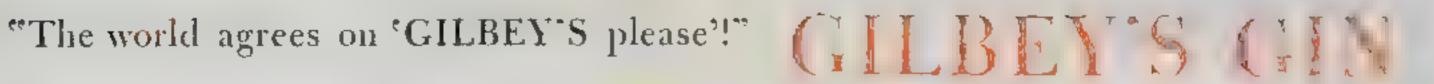
One side for legs for the smoothest shave possible—the other side for underarms for a shave so close, but so gentle she can use her deodorant immediately.





'Round the world...

# Happiest way to say Flappy Flotidays!





THE INTERNATIONAL GIN-distilled and bottled in the United States, England, Canada, Australia, South Africa, France, Italy, Argentina Brazil Chile, Mexico, GILBEY'S DISTILLED LONDON DRY GIN. 90 PROOF, 100% GRAIN NEUTRAL SPIRITS, W. & A. GILBEY, LTD., CINCINNATI, OHIO DISTRIBUTED BY NATIONAL DISTILLERS PRODUCTS COMPANY

#### OPERATION JENNIE CONTINUED



AT LICENSE BUREAU Jennie is fingerprinted for permit she needed to sing in New York cabarets.



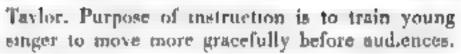
AT RESTAURANT Jennie spoons down orange sherbet, only luxury allowed her in reducing drive.



IN TV STUDIO Jennie gets advice from Mike Stewart and her mother before Steve Allen show.



LEGGING IT in dance studio. Jennie struts about in leotard behind her teacher, choreographer June







DEDICATION CEREMONIES begin with parade of stewardisses from 35 lines using Idlewild. On platform are Mayor Wagner, Governors Harriman and Meyner (third, 199th, with from 10ft), Marble plaque repeats Statue of Liberty inscription,



NEW BUILDING stretches behind the new 11-story control tower. Beneath the arched roof is the building's main concourse. Two customs areas like the one shown above right are to the rear of the concourse on the first floor level.



BENEATH TRANSLUCENT CEILING WHICH PROVIDES "DAYLIGHT" NIGHT AND

# FINE NEW FRONT DOOR FOR JET-AGE AMERICA

#### TRANSPORTATION



DAY, TRAVELERS GO THROUGH CUSTOMS CHECK-OUT COUNTERS IN ONE OF TERMINAL S CUSTOMS AREAS. LEFT: SPECTATORS WATCH FROM GLASSED-IN BALCONY

Air travelers returning from abroad through New York's Idlewild Airport, the nation's busiest international terminal, have had to endure drab, overcrowded buildings and seemingly endless customs waits. Last week, with appropriate whooshes of oratory from two governors, a mayor and aviation experts, New York dedicated a vast, striking and uniquely efficient terminal building designed for the jet age. Built at a cost of \$30 million, the three-story expanse of glass, aluminum and stainless steel stretches 11 city blocks and has 600,000 square feet of floor space. It

Inbound passengers will walk from planes into the building while their baggage is whisked along to a claiming area. From there it is carted to be checked out like Saturday-night groceries (above) by a customs man. In most cases time for the customs operations should be cut in half. To speed movement further, outbound passengers will use a separate floor. By 1965 the building, part of a \$150 million terminal city of 22,000 workers, will be handling 3.3 million international air passengers annually.



A TREAT FOR TRAVELERS, Idlewild's Fountain of Liberty sends illuminated sprays 60 fee into the pre-dawn are The fountain wasse waters flow from 9.6 nozzes, stands in a 200 not-wide paid. A raised walk-say runs from the fountain

through the 150-foot control tower to the arrival building. The foundain area was designed by New York Port York only architects with Wallace K. Harrison The arrival boilding was designed by the firm of Sk dinore. Owings and Morrila.



Take your choice from a variety of magnificent custom-wrapped packages.

### The world's most wanted gift whisky is now in its handsome holiday wrap, ready for you to give

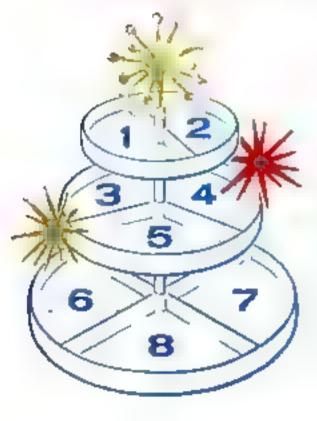
This year, give the world's most wanted gift of whisky. Canadian Club is waiting for you now at your favorite liquor store, all dressed up in foil, ribbons and bows at no extra cost. Because it captures the lightness of scotch and the smooth satisfaction of bourbon, Canadian Club's distinctive flavor is welcome to anybody, whatever his taste in whisky.



L and name is printed on removable company wraz Just slip off this nuter wrap and its ready to give by rail marks or a fvert sing.



### ... nobody makes pickles like Heinz!

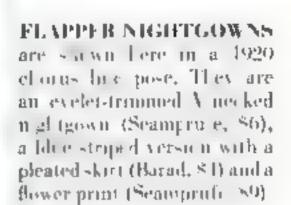


- t. Sweet Midget Gherkins
- 2. Fresh Cucumber Pickle
- 3. India Relish
- 4. Condied Dill Strips
- 6. Sweet Mixed Pickles
- 6. Kosher Dill Gherkins
- 7. Barbecue Relish
- B. Sweet Cross Cut Pickles

Like tinsel on the tree, pickles add sparkle to every meal—from fancy place-card dinners to gay icebox raiding parties. That's true especially at holiday time—seems like everybody's more pickle-hungry then. And the more kinds, the better the fun of your pickle sampling!

Heinz offers 21 kinds to please every taste -sweet little gherkins, mild fresh cucumber pickle, juicy dills and other crisp and
spicy favorites. For more variety at little
extra cost, buy several kinds of Heinz
Pickles and Relishes in thrifty 7½ oz. and
11 oz. jars with convenient twist-off lids.

#### **FASHION**



SHORTEST SLIP since the 120s is intended to be worn three inches above the knee. Made of flower-printed cutton, it has face trim on the top and bottom (fris, 89).



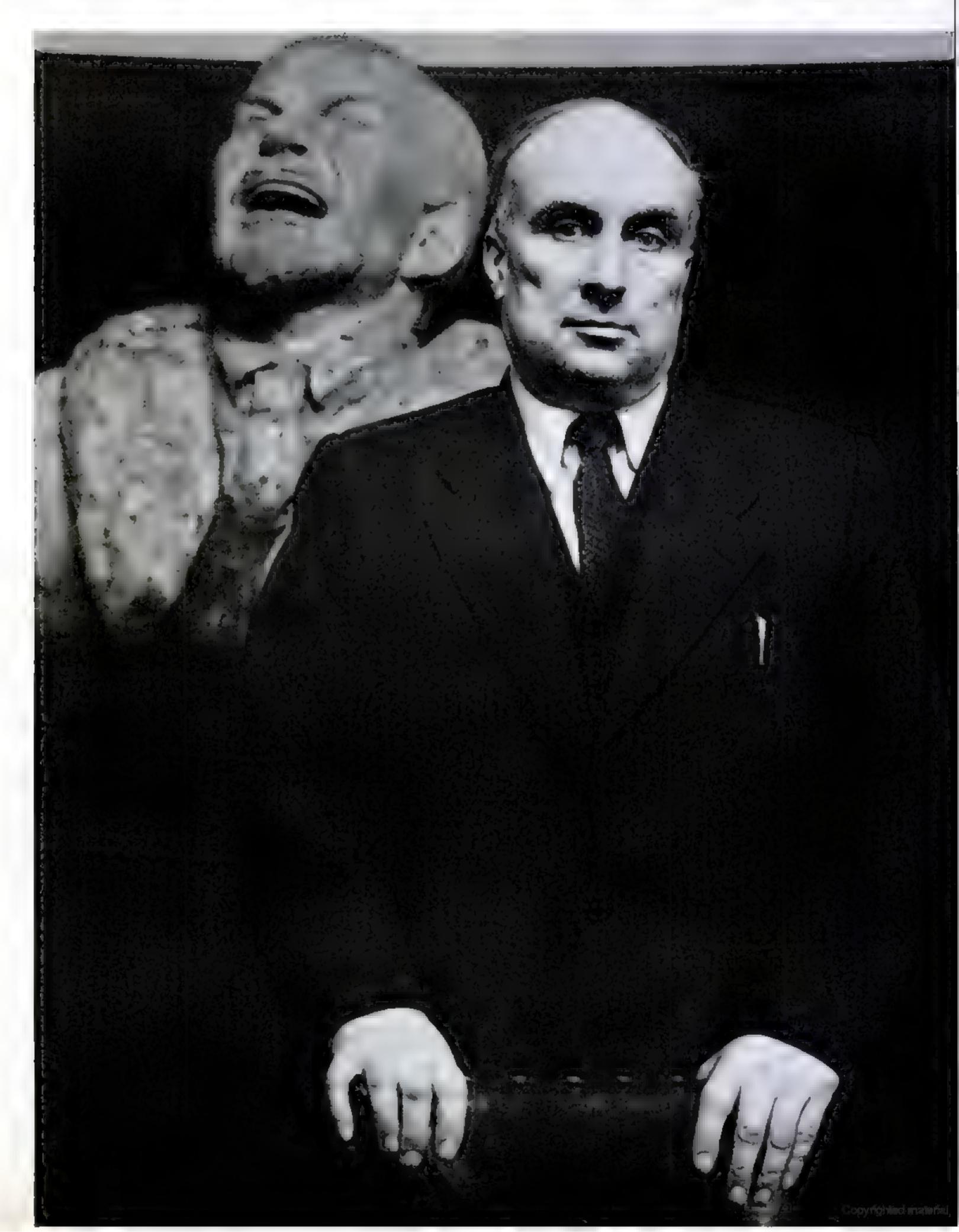
### Lingerie on a 1920s Kick

With the male shopper once again on the Christmas prowl, the lingeric industry, although as always depending heavily on the black lace nightgown, has this year produced some jaunty new styles that are likely to give the slinky standby some competition. These underclothes, which are almost guaranteed to make a girl look as if she had just stepped out of the chorus line of a 1920 musical, are inspired by this season's

bag or chemise dress. They closely resemble the original chemise or teddy, the straight-hanging one-piece undergarment of 30 years ago.

The new relatively inexpensive nightgowns are worn with matching bloomers and are of tabrics that are permanently pleated and need no ironing. The very short slip (right), though out of the past, is designed to be worn with the shorter skirts expected next spring.

## FIRST HARD FACTS ON



### ALL RUSSIAN SCIENCES

# Field-by-field survey based on U.S. experts' knowledge and Soviet words and deeds shows that Sputniks are but one example of amazing progress

by ROBERT WALLACE

ATMOSPHERICALLY the conditions are ideal for observing the Russian earth satellites as they whirl over the U.S. in the cool December twilight. It is not difficult to get a good look at them. But there is something more in the satellites than instruments and batteries and radios and the body of a dog.

To be impressed by the Sputniks themselves or even by the thought of the rocket fuels that threw them into the sky is to be impressed by a detail. It is as though a tourist in Egypt, having clambered up the Great Pyramid, were to go into raptures over the topmost stone. What is important about the pyramid is what lies below. What is important about the Russian satellites is the base of science beneath them.

Just how good is the base of Russian science? The Sputniks were technological accomplishments of a high order, favored projects into which the Russians chose to throw money and scientific endeavor at the expense of other projects. They reveal again, if there was any doubt of it after the Soviet successes in atomic weapons, that the Russians can do very well when they focus their efforts in one place. But where do the Russians stand over-all, in the many studies lumped together as "science"? What accounts for the progress they have obviously made since 1945? How good will they be in 1965?

In the preparation of this report these questions have been asked of many leading scientists in the U.S. and elsewhere in the free world. What follows is a science-by-science estimate of the whole field, sometimes in the words of a single expert, sometimes synthesized from the opinions of several. Perhaps the best general appraisal comes from Dr. Lee Du-Bridge, president of the California Institute of Technology. Dr. Du-Bridge, recalling that U.S. science did not start its real rise until a quarter-century ago, makes this rough comparison: "The Russians were in the position after World War II that we were in in the 1920s. They woke up, and they've been going like mad. Whenever that happens, you'll find progress is greater in some directions than in others. . . . It's not like a race between two horses but more like a race between two fleets of 100 yachts. Some of their yachts are ahead and some are 'way back. But their whole fleet is moving faster, and all their yachts could pull ahead."

Before the individual sciences are discussed there are two preliminary points. First, do Western scientists really know what is going on in Russia, and if so, how?

Yes, they do know. Since Stalin's death Russian scientists have been permitted relative freedom of communication with the West. They attend conferences outside the U.S.S R., they publish articles in technical journals that are available to Western readers, and when they meet their American colleagues they usually speak with candor. In certain fields, at least, their freedom of communication seems greater than that permitted

their counterparts in the U.S.—a situation which troubles many American scientists greatly. Dr. Detlev Bronk, president of the National Academy of Sciences, says, "Unless we have a far greater fund of new scientific knowledge and are making discoveries at a much more rapid rate than the Russians, which I do not believe, we should endeavor to learn from them. If people are our friends we will wish to know what they know and are discovering; if people are our enemies we desperately need to know what they know and think."

In conversation with Western scientists the Russians have been almost garrulous. They have keen professional pride and are wholeheartedly dedicated to their work. When they visit scientific institutions in the U.S., they are impressed by what they see—but soon begin to talk excitedly about what they are accomplishing at home. In this dedication the West should find a warning the competition is far from spiritless.

A second point is the distinction between basic and applied science, between knowledge which is sought merely for its own sake, and knowledge sought for some specific purpose. The basic scientist examines the stuff of which the universe is made, seeking information about it that can be phrased in a formula which will be true everywhere and forever. In his wake come the applied scientist and the technologist, who seek to find a use for what their predecessor has discovered. The product of basic science, for example, was the information that nuclear explosions are possible. The product of applied science was the atomic bomb,

Basic science is always ahead of applied science. Sometimes the time gap is only a few months, sometimes years. The relationship is important in any evaluation of Russia's, or any other nation's, science.

With these points in mind, here is how we stand as compared to Russia.

ATHEMATICS: The Russians have traditionally been strong in theoretical mathematics. Today they are probably ahead of the West in this science from which the most extraordinary insights, such as Einstein's Theory of Relativity, are obtained. But the Russians may lag in the applied mathematics of automation and computers. When the last thorough comparison was made a few years ago, Russian computers were still slower and fewer than ours. Today Russia claims to be building the world's largest and most versatile computing machine, and American experts point out that an extraordinarily good computer must have been used in making calculations before the Sputniks were launched.

ATOMIC PHYSICS: Russian emphasis in atomic research has been in the spectacular high-energy field, the production of new particles and the study of the nucleus. Right now the Russians have the world's largest atom smasher, almost twice the size of the largest U.S. machine

CONTINUED



LEADERS OF RUSSIAN SCIENCE are depicted in this painting of the Presidium of the Academy of Sciences listening to a talk by a member (right).

Foday the academy, under Alexander N. Nesmeyanov (standing, left), directs the country's scientific projects with considerable freedom from Kremlin control

Gosh, what an upset stomach...and
my best customer's coming in today!

I'd take Pepto-Bismol, Mr. Tuttle.
Hospital tests prove it relieves
upsets, you know.
Wonderful for indigestion
or nausea, too!

Pepto-Bismol works where sode, seltzers and "tummy-sids" fail!

For upset atomach, indigestion, nausea, or diarrhea—Pepto-Bismol's special medicinal formula soothes with a gentle coating action. It works both in the stomach and the intestinal tract—where sode and alkalizers never help. For children or adults, this wonderful pink liquid helps control simple diarrhea without constipating.

Pepto-

Bismo

to PSEP armed

TARE HOSPITAL TESTED PEPTO-BISMOL' ... AND FEEL GOOD AGAIN!





HIGH STATUS OF SCIENTISTS in U.S.S.R. was emphasized when Igor Kurchatov (center), Russia's leading atomic physicist, visited British nuclear lab last year with Khrushchev and Bulganin, who let him hold center of stage.

#### SOVIET SCIENCE CONTINUED

now operating. Last week, commenting on the value of this Russian "phasatron" as a research tool, a group of U.S. scientists stated that "a discovery made with it could at any time create a furor similar to that caused by the launching of the satellites."

Other Russian research equipment has also impressed Western visitors. Dr. Robert R. Wilson of Cornell last year saw a 60-inch cyclotron which is virtually in mass production for educational and research purposes. Dr. Arne Lundby of Norway found a teaching laboratory in Moscow equipped with 10 commercially made mass spectrometers, worth perhaps \$500,000 and far excelling any equipment available to students in the U.S. or in Europe for measuring the masses of atoms.

Moreover it is not merely the quality of Russian equipment that is high. The level of knowledge is commensurate. Dr. W.K.H. Panofsky of Stanford, an authority on the design of linear accelerators, last year was asked to chat with a few of his Russian counterparts during a visit to Moscow. "I thought there might be three or four of them," Panofsky said, "but found myself addressing some 30 men and women, all of whom seemed to be experts in my specialty."

CHEMISTRY: The level of basic research in this field, as indicated by reports published in Russian technical journals, is not high. Last year a Russian chemist, N. N. Semenov, received a Nobel prize, but it was for a theory of combustions and explosions which he formulated in the 1920s. Apparently the Russians have not yet entered a number of fruitful fields, such as the application of quantum mechanics to chemistry, and they have neglected drugs, vitamins and antibiotics, "Most of their work," says Dr. John Turkevich of Princeton, "is just plain unimaginative."

Some Western chemists feel the apparent lack of progress may be deceptive. "Russian chemists are very close-mouthed, more so than men in other fields," reports Dr. John Flagg of General Electric. "At the Geneva Conference for peaceful uses of atomic energy, delegates from many nations gave papers on the chemical processing of uranium and plutonium—but not the Russians. We couldn't even get them to talk about it. And we were pretty sure they were doing as much as we were. Same thing with high-energy fuels. If Sputnik and Muttnik are any indication, they're ahead of us, but they haven't published anything on the subject." Nevertheless, Western authorities agree that Russia has not poured talent into chemistry as she has into physics. The reason is plain. The great stimulus for U.S. chemistry comes primarily from two sources: private industry, which does not exist in Russia, and medical research, which is neglected there.

ASTRONOMY: "Russian astronomy has always been good," says Dr. Otto Struve, head of that department at the University of California. "Ambartsumian, the dean of it, has done brilliant work on the formation of heavy elements at the surface of stars and on certain other ill-comprehended sources of energy. We have only two or three men who compare with him. But it is the young men who concern me. They are training more than we are now. They have caught up with us and will pull ahead in the next decade unless we double the number of youngsters we are training. It is difficult. Our funds have been heavily cut in the past year. . . . People forget how important astronomy is. Nuclear physics and a







DISTINGUISHED TRIO of scientists (from left), Astronomer V. A. Ambartsumian, Sputnik expert Anna Masevich and Physicist P. L. Kapitza, talk with a visitor from India and a Russian colleague at 1955 meeting of Soviet Academy of Sciences, called to discuss the peaceful uses of atomic energy.

#### SOVIET SCIENCE CONTRNUED

large part of mathematics wouldn't exist if it weren't for astronomy. We don't need much money, just a little bit more. . . ."

The U.S. possesses the world's largest telescope, the 200-inch instrument on Mount Palomar in California. But the Russians have a 100-incher under construction and are planning to surpass the U.S. with one of 220 inches.

RYOGENICS: This science, the study of the behavior of matter at extremely low temperatures, yields information of the utmost importance to the science of the future. When matter is cooled toward absolute zero (-459°F.), its molecules lose speed and its structure is simplified. This makes possible insights which scientists have never before achieved. It is almost as though the tricks of a sleight-of-hand artist were photographed on fast film, then shown in slow motion. Liquid helium, for example, behaves in an extraordinary manner when it is cooled below -456°. It offers no resistance when solid shapes are pushed through it. It can turn some materials, such as lead, into perfect conductors in which electrons float from atom to atom without friction.

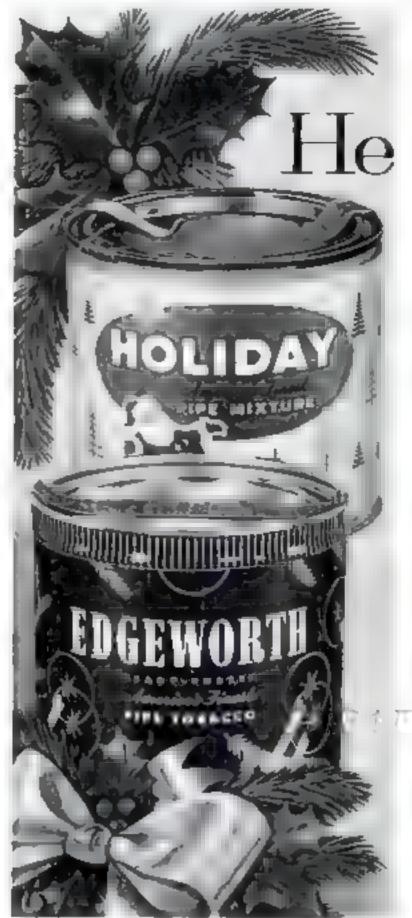
The world's great pioneer in cryogenics is Russia's Peter Kapitza, now 63, who heads a magnificently equipped research institute in Moscow. A versatile scientist, Kapitza has turned to other work in recent years—among his present posts is the chairmanship of the State Committee for Interplanetary Travel—but he has inspired a generation of younger men who now pursue his old specialty. Among them is L. D. Landau, generally acknowledged to be one of the two or three foremost theoretical physicists now living. In the 1940s Landau worked out the theory of liquid helium. Today he and his students publish many expert formulations of low-temperature phenomena. As a result, Russia's cryogenics is probably superior to that of the U.S. in basic theory and only slightly behind experimentally. Recently the British low-temperature physicist Dr. David Shoenberg visited the Kapitza-Landau institute and reached the inevitable conclusion; "They are bound to outstrip us."

Solid State Physics: In general, solid-state physicists do three things: they study crystals, their shape, arrangement, defects and response to various kinds of outside energy; they find out what magnetic and electric action takes place in metals and ceramics; and they study how to make and test metals with desirable properties. The worldwide interest in solid-state physics is intense. In the U.S. literally thousands of scientists work at it in universities and in the industrial laboratories which produce transistors, semiconductors, magnetic memories, stronger metals and faster computers.

In Russia the great emphasis in solid-state physics has been upon theory and experimentation rather than application. Three of the world's half-dozen pioneers in the field were Russians: Kapitza, Landau and Abram F. Joffe. Their basic research is as good as any to be found in the West, and this somewhat counterbalances the fact that Russia has fallen two to five years behind in application.

IFE SCIENCES In these areas—microbiology, biophysics, biochemistry, plant and animal physiology, cytology (cell research), botany, zoology and paleontology—Russia is generally far behind us. Her once excellent genetics research is still recovering from the

#### ON CHRISTMAS MORNING



whatever else a pipe smoker gets...

# expects this too!

After all, what fills a man with pleasure more than the pleasure that fills his pipe! No matter what else a smoker gets... he knows there's one package in that pile of gifts containing his favorite smoking tobacco. A gift that breaks his face into a wreath of smiles on Christmas morning... and brings relaxation and contentment ever after. One (or more) of these is sure to please!

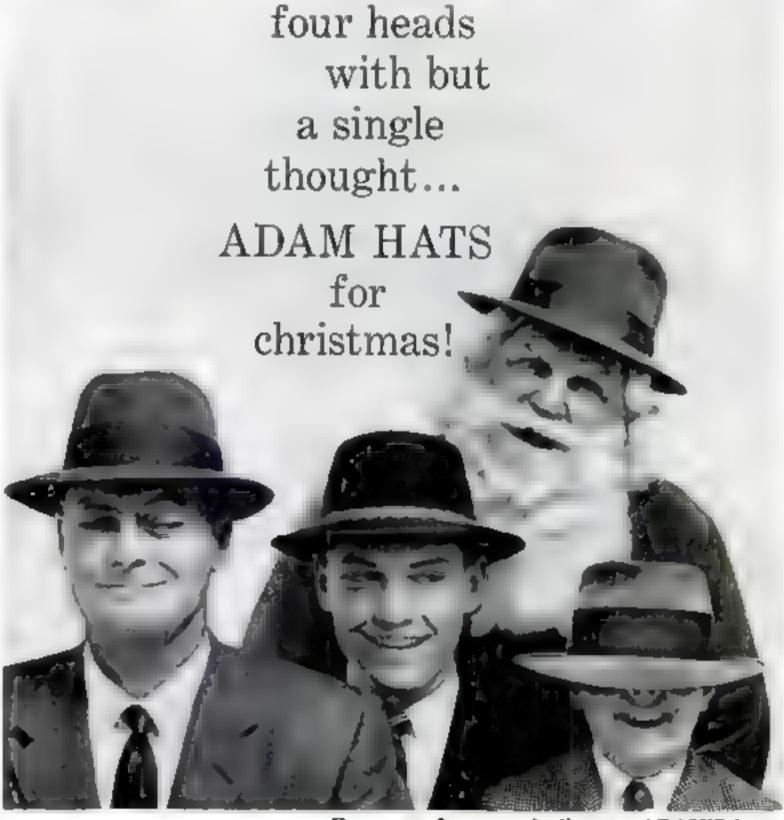
#### HOLIDAY

THE "CUSTOM BLEND" MIXTURE WITH THE DELIGHTFUL AROMA. Five great tobaccos handsomely blended into a mild mixture of matchless flavor that experts admit "can't be matched at five times the price." Get Holiday! He has smoked it before? Good! You know he likes it, He has a treat coming.

#### EDGEWORTH

FAMOUS OVER HALF A CENTURY FOR NO-BITE SMOKING The secret? Edgeworth is the only ready-rubbed tobacco. That's why this flavorful blend of white burleys smokes so cool. A favorite with smokers for over fifty years so—as you'd expect—it's certain to be his favorite, too.

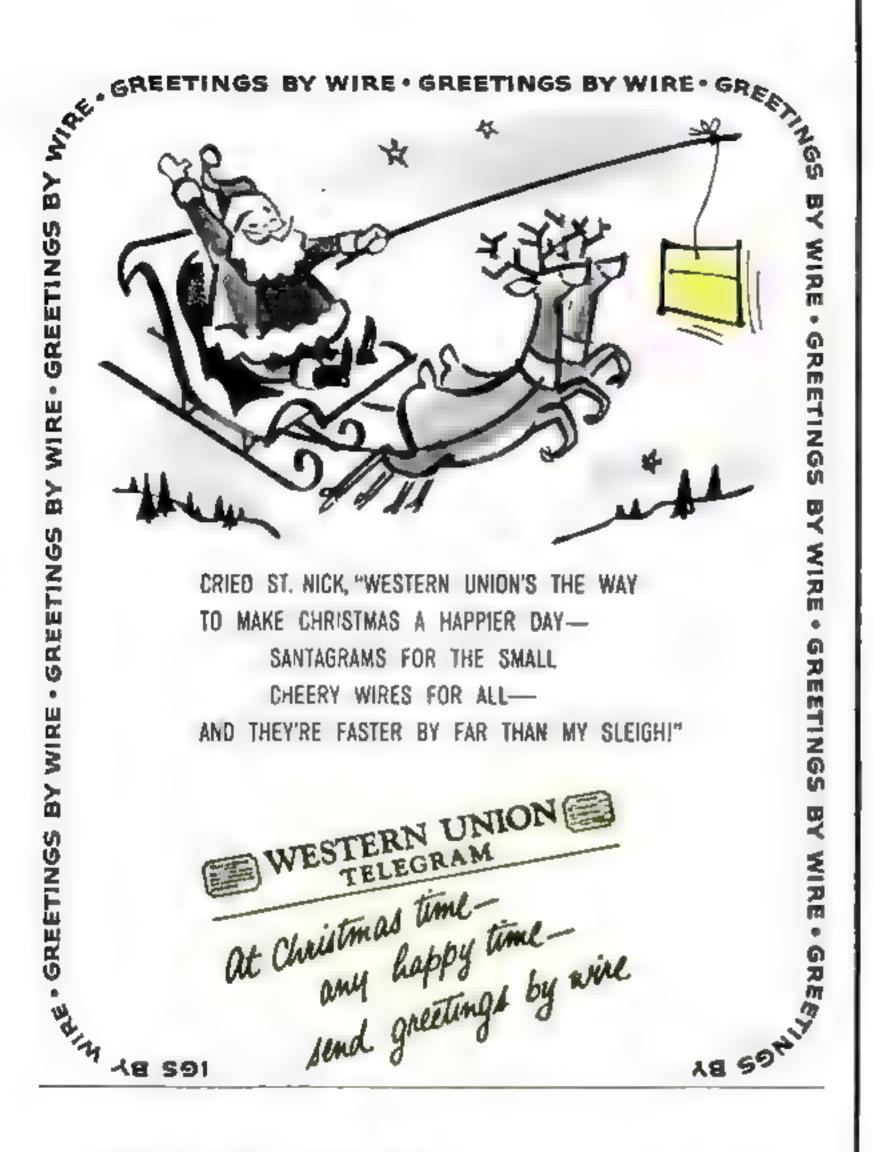
LARUS & BROTHER COMPANY, INC., Richmond, Virginia "Fine Tobocco Products Since 1877"





For ages—for men of all ages—ADAM'S been the hat to give for Christmas. And the giving's so easy, with Adam's bright Gift Certificate Box and miniature hat. He chooses his own favorite style. A luxurious gift—only \$5.95 to \$10, at fine stores everywhere. In Canada, too. Man—that's giving!

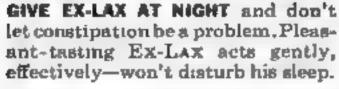
ADAM HAT MANUFACTURERS, DIV. OF MILLER BROS. HAT CO., INC. . FIFTH AVE , NEW YORK AND DALLAS, TEXAS



## EX-LAX HELPS your child toward HIS NORMAL REGULARITY

...gently...overnight!







NEXT MORNING, he'll enjoy the closest thing to natural action. No embarrassing urgency. No upset with gentle-acting Ex-Lax.

MEDICAL LITERATURE REPORTS PROOF that the laxative ingredient in Ex-Lax acts in two important medical ways to relieve constigation.

1-Ex-Lax acts in the large intestine, not the stomach. Does not rob vital nutrition...does not interfere with normal functions of your system.

2—Ex-Lax continues to help you toward your normal regularity—
seldom, if ever, is it needed the next day. So, when you need a laxative, use Ex-Lax.

IMPORTANT WHEN COLDS STRIKE! Gentle Ex-Lax agrees with cold remedies...no weakening after-effect.

15¢, 37¢ and 79¢ economy family size



MORE FAMILIES USE EX-LAX THAN ANY OTHER LAXATIVE

#### SOVIET SCIENCE CONTINUED

great damage caused by "Lysenkoism." Trofim Lysenko, a biologist who was a favorite of Stalin's, championed the mistaken theory that environment, not heredity, is the dominant force in changing and maintaining the forms of life. At Stalin's insistence all Russian biologists were obliged to support this theory, at least publicly. Today Lysenkoism has been denounced by Communist leaders, but Russian genetics has been set back 10 years. Even if the Russians devote the same effort to the life sciences that they now give to others, it will probably be a generation before they can eatch up with the West.

EARTH SCIENCES: What Russia is capable of accomplishing in a few years is well illustrated by her progress in the sciences of the atmosphere, the oceans and the earth. In prewar Russia oceanography was a scientific stepchild, But since 1945 she has launched an oceanographic fleet with a total tonnage 10 times that of the U.S.'s and a staff of scientists two to three times as large. Russia has assumed one third of the worldwide oceanographic effort connected with the International Geophysical Year, a larger share than that of the U.S. Qualitatively Russia's work does not yet equal that of American oceanographers, but her quantitative lead may soon translate itself into superiority in quality as well.

In the sciences of the atmosphere Russia may already have achieved superiority, although in some areas the U.S. still holds a lead. Dr. Harry Wexler, director of research for the U.S. Weather Bureau, makes this comparison of Soviet and U.S. meteorology: "Our best minds and best instruments are still superior to theirs, but they have more minds, more instruments and more money, as well as more

Russian research in the solid earth itself is not up to the U.S. standard in several particulars. She is weak in many branches of geology, and her theoretical work on the composition of the earth's crust and core is not impressive to Western scientists. But in some areas Russia is ahead. Her applied chemical prospecting—the detection of mineral deposits by the trace elements washed out of them and found farther down the watershed—is being copied by U.S. geologists. Russia's seismology, the study of quakes and other shock waves

in the earth, is better coordinated and staffed than that of the U.S.

The Soviets are probably also ahead of us in geodesy—the measurement of the earth's size, shape and gravitational field.

Russian drilling rigs available for geophysical studies are remarkably good. At a recent conference in Canada, U.S. Geophysicist Roger Revelle remarked wistfully that it would be nice if a hole could be drilled 10 miles into the earth so that scientists might at least know exactly what lies beneath the submarine and subcontinental coating of basalt. Up spoke a Soviet scientist who said that Russia already has perfected the necessary drilling rig and is only looking for a good place to sink the shaft.

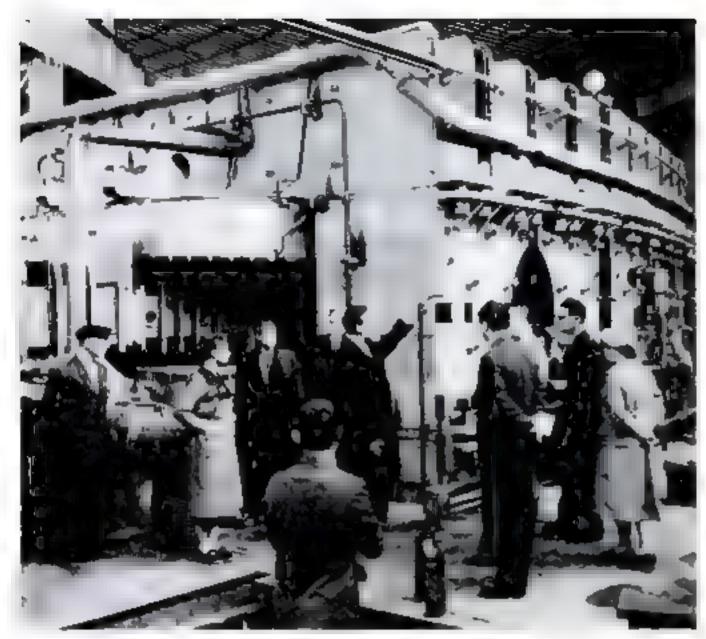
As the foregoing brief roundup indicates, Russia stands very well in most of the sciences. In some sciences where she lags, the lag may be intentional; her science is encouraged and subsidized not for the benefit of the people but for the state. The recent Russian advances are not merely isolated technological breakthroughs; they are the result of a long-term emphasis on basic research which is the great strength of Soviet science. An estimated 20,000 Soviet workers annually enter this field, where the great discoveries (including those leading to new weapons) are made. By contrast the U.S. increases its basic research staff by fewer than 10,000 workers a year, concentrating instead on applied research leading to the better airconditioner and the noiseless commode

Russia has assumed her challenging scientific position only since the end of World War II. But Russia is no intellectual parvenu. Her scientific tradition extends back at least to the time of Peter the Great. The Russians have always been excellent theoreticians—Einstein's relativity, for example, is rooted in the abstruse non-Euclidian geometry which was developed by the Russian Mathematician Lobachevski around 1830. The sudden flowering of Soviet science may seem startling to Americans who like to think of Russia as a nation of peasants, but in fact the new blossom hangs from an old bough. It is only the impetus that is new.

At the end of World War II the Russians deliberately set out to obtain world domination through science. Their scientific effort is organized like a pyramid with the Soviet Academy of Sciences, headed by A. N. Nesmeyanov, at the top. The academy has some 500 members, all leaders in the various sciences, who act as a huge board of directors in channeling the national program. Scientific projects are assigned to various institutes for development, and there is little duplication of effort. Such national control of science would be wholly unpalatable in the U.S., but some over-all direction may be required







WORLD'S MIGHTIEST ATOM-SMASHER at Dubna, Russia is powered by huge 36,000-ton electromagnet whose operation is explained for Western newsmen by Soviet nuclear scientist Valentin Petukhov (center).

#### SOVIET SCIENCE CONTINUED

if the U.S. is to compete successfully with Russia. At any rate, there is strong sentiment among American scientists for the setting up of a national department of research and development, perhaps headed by a scientist with Cabinet rank, so that the U.S. can eliminate some of the waste which Russia has already eliminated.

When money is required for scientific projects, the Soviet Academy of Sciences sees that it is supplied. Scientific equipment is extraordinarrly expensive: a single atom-smasher may cost \$100 million, the firing of one large rocket as much as \$10 million. But whatever Soviet scientists request of their government, they get. For example, the huge Soviet phasatron is driven by a magnet containing 72 million pounds of iron. Had Soviet scientists been in less of a hurry for the phasatron. they would have discovered, as Western scientists have, that such a mountain of iron is not necessary. But they were in a hurry, and they got precisely what they requested. Today a standard wisecrack among Soviet scientists, showing off the machine to Western visitors, is, "We had to melt down the Iron Curtain to make it."

Dr. Maurice Stacey, head of the department of chemistry at the University of Birmingham, England, last year visited Leningrad's Institute of High Polymers (plastics) and reported that "the amount of equipment is incredible. There was five or six times as much as in the comparable department of a British institution. . . . One wondered if they could use it all."

#### A clearinghouse for Information

N addition to furnishing whatever equipment may be requisitioned the Soviet government provides lavish support in research services. Theoretically a scientist can keep abreast of world developments by wide reading of technical journals, but in practice this is almost impossible. There are too many journals in too many languages. To solve this problem the Russians have established an Institute of Scientific Information, described by a British zoologist, Dr. D. R. Newth, as "the really shattering thing" he saw during a visit to Moscow last year. The institute abstracts about 8,000 scientific journals from all over the world, including 1,400 from the U.S. and 800 from Great Britain, annually publishing a well-indexed mass of information larger in volume than a set of the Encyclopaedia Britannica. Said Dr. Newth, "When a journal comes in, all the papers in it are put on filing cards and each is allocated to a senior scientist, not a hack, to abstract. The delay between the time a paper is received and the time its abstraction is completed is well under a year, and they are bringing it down to six months. No other agency in the world is doing this job. I wish to God I could read Russian."

Newth found that Soviet scientists had an impressive knowledge of developments in the Western world. "In an argument with some of them," he reported, "I quoted the works of two Britons named Biggs and King. One of the Russians replied, 'Yes, but you haven't

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RENOWNED PHYSICIST Lev D. Landau, who ranks as one of world's two or three top theorists studying the behavior of matter at extremely low temperatures, teaches at the Institute for Physical Problems in Moscow.

#### SOVIET SCIENCE CONTINUED

seen their latest paper. It qualifies their previous conclusions." To his chagrin Dr. Newth later discovered that the Russian was right.

The U.S. has nothing comparable to the Russian Institute of Scientific Information and is therefore grievously handicapped. The Atomic Energy Commission supports translation of several foreign publications, and many scientific societies publish abstracts covering foreign work in their own fields. Private industries also maintain their own libraries. But of 1,200 Russian scientific journals subscribed to by the Library of Congress, only 30 are regularly translated and made available to U.S. scientists. Thus there is no central clearinghouse where a scientist can quickly find out what he needs to know.

This lack of current information is frustrating and costly. Recently, for example, the National Science Foundation reported that a group of American laboratories spent five years and more than \$200,-000 researching a problem in electrical circuitry, only to discover after the conclusion of the work that the research had long since

been done, and the results published in Russia.

#### The rewards of Russian research

THE mere provision of equipment and research services was not of course sufficient to produce a thriving science in Russia, Something had to be done for the scientists themselves. This, too, the Soviet leaders have done. Upon the traditional base of respect for intellectuals in Russia has been grafted an official system of material rewards. The head of the Academy of Sciences, A. N. Nesmeyanov, receives about \$20,000 a year, a sum which in Russia makes him the equivalent of a top U.S. executive. A high-ranking Soviet professor like Landau may draw \$18,000. Soviet scientists, almost alone among R 'ssians, may equip their homes with refrigerators, TV sets and recor I players. They may maintain weekend cottages in the country and spend their vacations on the Black Sea Riviera. They are, except the topmost political and industrial brass, the most favored class in the Soviet Union. "Class distinctions are greater than anything I had ever imagined," reported a British chemist last year. "Scientists and professors always seem to have a host of servants, maids and chauffeurs." It is a remarkable paradox; by serving Communism scientists receive capitalistic-size rewards. As Dr. M. H. Trytten of the U.S. National Academy of Sciences has remarked in wonderment, "Somehow a system of government based on materialism has found a way to bestow its highest rewards on men who deal in abstract ideas."

But the lavish satisfaction of professional and personal wants still cannot assure that scientists will produce great work. Freedom of thought and communication are also required. A few years ago, while Stalin still lived, Dr. Vannevar Bush predicted in his book Modern A ms and Free Men that the scientists of the free Western world, in the very nature of things, were bound to surpass the strait-jacketed scientists of Russia. This seemed to be a safe forecast when Dr. Bush wrote his book, but times have changed. The case of Peter Kapitza

serves as an illustration.

From the mid-1930s to 1946, Kapitza was popularly regarded as the supreme scientist of Russia. But then he gradually fell from favor



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#### SOVIET SCIENCE CONTINUED

and was finally placed under house arrest. No one in the West knows precisely why, but the best guess is that he objected to Russia's postwar isolation of science, its secrecy and Lysenkoism, and spoke up about it. Then in 1955, as suddenly as he had been downgraded, Kapitza was restored to favor. He was reinstated as director of his institute, and according to rumor he ran up the steps of the building, followed by a crowd of students, shouting "No more secrets!"

Here the paradox expands: by performing well for a slave state some Soviet scientists are paid off in freedom. Within limits which would be intolerable to Western scientists but seem tolerable to them. Soviet scientists may do and say what they please. When their science collides with Marxist dogma, it is the dogma and not the science which finally yields. For years Stalin frowned on the teaching of Einstein's theory of relativity because he considered it to be based on decadent premises with which Marx and Lenin would not have agreed. Today Soviet scientists teach the theory openly (as they always did covertly), and the Party holds its tongue.

Needless to say, not all Soviet scientists enjoy freedom. Mathematicians and physical scientists have the most, social scientists the least. It would be a foolhardy sociologist or psychologist who chose to differ with Communist doctrine. For this reason the best Russian brains go into the "safe" physical sciences, the second-rate brains into the "unsafe" social sciences and the humanities. Herein lies a long-range danger for the West; an unbalanced Soviet culture, capable of producing fearsome weapons and space ships but untempered by the humane studies and virtues, is a child with a knife.

But in the giving of freedom lies a long-range danger. Freedom spreads. Will the scientists infect others? What happens then?

#### A call for peace

RECENTLY a group of 196 Soviet scientists, headed by such men as Kapitza, Nobel Prize winner Semenov and academy head Nesmeyanov, sent out a highly interesting communication. It suggested that "a broad international conference of scientists" be held to discuss the dangers of thermonuclear war. "We Soviet scientists express our full readiness for common effort with scientists of any other country to discuss any proposals directed toward the prevention of atomic war, the creation of secure peace, and tranquillity for all mankind."

The communication repeated some of the old Communist propaganda demands, such as cessation of atomic bomb tests, but it appeared to have something more in it. Dr. Eugene Rabinowitch, editor of the U.S. Bulletin of the Atomic Scientists, thought that it did and urged that Western scientists meet the Russians half way. So did U.S. industrialist Cyrus Eaton (C & O Railroad, West Kentucky Coal, Portsmouth Steel). It "indicates a willingness on the part of scientists to do their part toward cooling the passions of statesmen," Eaton said. It may indicate something else too: Khrushchev's dilemma. In order to make scientists produce he must give them freedom, and with freedom comes responsibility and a sense of the worth of man. When scientists start thinking about such things, perhaps the whole Communist contrivance goes up the spout.

The foregoing may be too long-range a hope—Khrushchev may provoke war before the scientists provoke peace. But it is a hope. Setting it aside, one can leave Khrushchev chewing on his paradox and his problem and look at another aspect of Soviet science, its future, which involves the Soviet educational system.

Most of the leaders of Soviet science today are men in their 50s and older who received their training in the West before World War II. In the near future Russia must begin to rely on home-trained products. It is too early for anyone to make an accurate estimate as to their quality, particularly their capacity for independent thinking, but their quantity will obviously be great. Earlier this month, addressing a NATO conference in Paris, U.S. Senator Henry M. Jackson pointed out that "scientific manpower is being graduated in the Soviet Union at a present per capita rate approximately twice that of the NATO community as a whole, Russia now turns out more scientifically trained people than any Western nation, and is accelerating the output at a higher rate than any nation."

Needing scientists, the Soviet simply trains them, and the individuals have no choice. Even if Russian students had unlimited choice they would doubtless choose science in any case. Students can see the rewards given to scientists. Moreover there are not many other fields a bright young Russian can enter. There is no demand for talent in private industry, advertising, salesmanship or marketing. There are comparatively few lawyers in Russia. Medicine is not a highly regarded profession: practicing physicians, roughly 70% of whom are women, rank only slightly above factory foremen. Science is the thing.

The entire Soviet educational system is geared to discover and develop potential scientists. All Soviet children attend the "Seven-Year

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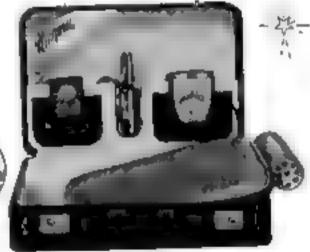


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#### SOVIET SCIENCE CONTINUED

School." The brightest go on for three more years, graduating at about 17. These schools operate on a six-day week and a 10-month year. By graduation, the Russian child has absorbed a tremendous amount of science education: 10 years of mathematics through trigonometry, five years of physics, four years of chemistry, five years of biology and one year of astronomy.

As the Russian student goes through school, he is watched closely for signs of intellectual ability. If he has talent, he is sent on to an institute of higher education where the Soviet incentive system takes hold. He is paid to study, and the higher his grades, the more his pay. The brightest students continue studying and continue to be paid until they are full-fledged scientists. In sum, the Russian system of science education is a frighteningly good one, for Russian purposes. It can only be assumed that it will produce an even greater challenge

in the future than the challenge that exists now.

As to where Russian science is heading and what its status will be in another generation, no one can say. Some Western scientists suggest that the Russians suffer from an inferiority complex which is distilled in the arrogance and the rudeness of Khrushchev. Now that the Russians have shown the world, through the Sputniks, that they too can produce technological wonders, they may become a little easier to live with and may begin to direct more of their scientific effort toward peaceful projects. Others suggest just the opposite: that the Russians will continue to concentrate on weapons, hoping to defeat the West or blackmail it into surrender.

In any case the West has no choice but to assume the worst. It may come in two forms: in military conquest, the primary concern right now, or in peaceful conquest, through the Soviet state-controlled

system of education.

In its hundreds of thousands of trained technicians Russia is producing men and women who know how to operate uranium mines, to build and run power plants, to do laboratory work, to put science to practical use. Within a generation the Soviet Union will have an enormous pool of such technicians, far more than she needs domestically, who can be used as a living export commodity. Sent into Africa, India, Indonesia, they may develop these areas according to the Communist scheme while the U.S., still talking bravely about free enterprise and Point Four, declines. It is this prospect, in addition to the purely military implications, that Americans may consider as they watch the Sputniks tumbling through the cool twilight over their secure and perhaps still somnolent country.



SCIENTIFIC SYMBOL, Sputnik I was displayed in full-scale replica in Moscow last month to fascinated crowds at a Soviet industrial exhibition.



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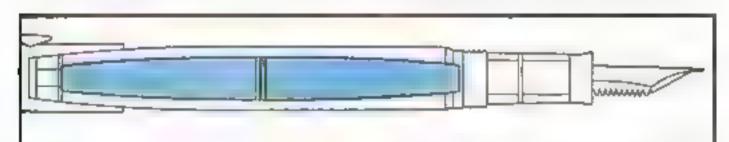
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There they not tourist high spots in the morning, the hotel pool in the afternoon and

then went on to the nightclibs. After five days the vacationists were bleary eved from lack of sleep, but turned the train trip home into the most testive party of the vacation. Dressed in Havana-bought regalia, they tramped through the aisles singing, shouting and banging bongo drains. This is my first holiday in 10 years, said one secretary, who had left five children at home. I'd forgotten what fun life could be," Among the souvenirs the vacationists returned with were 304 bottles of rum, 102 bottles of perfume, seven drains and a stuffed alligator—all bought with the \$100 per person allowance the boss had thoughtfully provided.



SETTING OFF, Cladierne Rolons (left) leads employee from the plant. After evernight train rice to Mine they boarded planes for the Lop to Hayana,

THE PARTY WAS A LABOUR BODIES IS A DEBTA MARY MIST BY THEIR BY A DESIGN OF THE PARTY AND DESERVED BEING THE PARTY OF THE PARTY AND DESERVED BY THE PARTY OF THE P





GANGING UP ON THE BOSS Secretaries Betty Gibson (left) and Lucile Kranitzky (right) join in trying to push bire in hotel pool. He pushed them in instead.



EMBARRASSING THE BOSS, a nighte-lub dancer parts him on stage to teach bine grand and hamp. Thank beavens my wife saw it wasn't my idea? The said.



IN "DOUBLE SWAN DIVE" LUCIDE KRANITZKY AND CHEMIST ROBERT JORDAN PLUNGE INTO SWIMMING POOL OF THE HOTEL NACIONAL WHERE THE TROOP STAYED



LOSING HER HEAD, Packer Thelma Monte pokes it into an old cannon on a tour of Morro Castle, the ancient Span, and which overlooks Havana harbor.





ABOUT NEXT WEEK'S SPECIAL TWO-IN-ONE ISSUE

### 'America's World Abroad'



T this time, when our prestige around the world is in question, it is important for us to remember that there are more than two million Americans abroad. They comprise an army of official and unofficial ambassadors whose everyday conduct, dealings and didoes add to or subtract from the stature of our nation in the eyes of other people. Their activities range from striking oil in Venezuela to a mission surgeon running a hospital in the Cameroons; from a concert artist touring in Europe to a Minnesota boy who is a house guest of a Buddhist family in Japan; from expatriates living it up in Mexico to an Arkansas professor's family living through their first strange and eventful days in India. And there is the military, widespread and ready at SAC bases in Morocco, at Army outposts in Korea and on sea patrol with the Seventh Fleet.

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single subject. In more than 120 pages of words and pictures, in more than 45 pages of striking color illustrations including specially commissioned paintings, you will get a complete picture of how vast and varied is the influence of our countrymen in foreign lands. You'll see who goes abroad and why and what they do. And in seeing, you will be better informed and, very likely, amazed, at the good marks for America our citizens can make in this crucial time for our nation.

Like previous special year-end issues (Christianity, The American Woman), this will be a "double" issue, priced at 35¢ and combining twice as much editorial value as you would find in the two issues it replaces. In a like previous "double" issues, it has been almost a year transparation, with virtually every one of Life's 300-member; the wing a hand in its production at one time or another transparation and effort has gone into this issue.





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